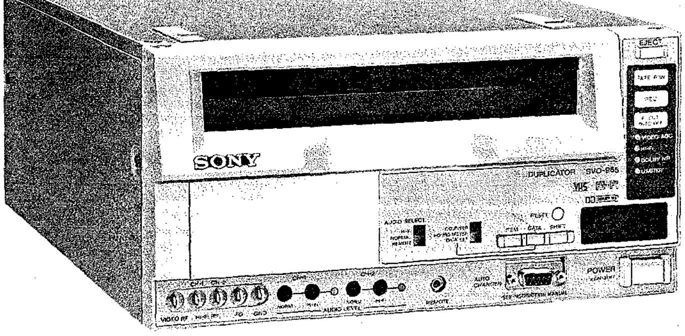
SONY

DUPLICATOR

SVO-965P
SVO-915P

SERVICE MANUAL

1st Edition


SONY
EJECT
DUPLICATOR SVO-965
POWER

VHS Hi-Fi
PAL

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the unit to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

(1) A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufactur's instructions to use these instruments.

(2) A battery-operated AC milliammeter. The Date Precision 245 digital multimeter is suitable for this job.

(3) Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V; therefore, analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable.
(Refer to Fig. A)

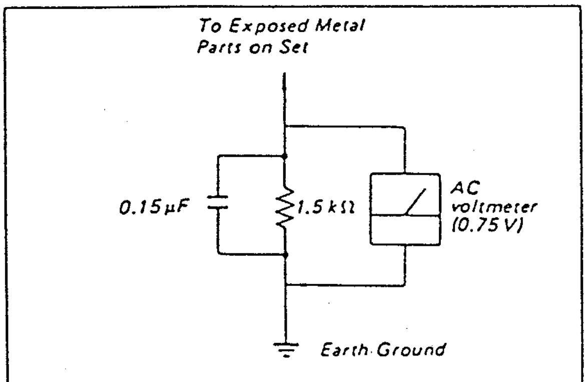


Fig. A. Using an AC voltmeter to check AC leakage.

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SECTION 1
OPERATING INSTRUCTION

This section is extracted from operation manual.

English

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution
Television programmes, films, video tapes and other materials may be copyrighted.
Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:
Green-and-yellow: Earth
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IMPORTANT
Nameplate is located on the bottom.

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Overview

The SVO-915P is a Sony's record-only VHS duplicator model and the SVO-965P is another duplicator model which has both recording and playback functions.
The differences between these models are clarified in the texts.

High reliability

Thanks to the two direct reel motors and a lower drum assembly using a rigid material, long-life operation will be possible. High reliability is also realized with a beltless mechanism.

Hi-Fi audio recording

FM audio signals can be recorded on a video track as well as on the audio tracks for ordinary recording. This actualizes high fidelity (Hi-Fi) sound reproduction. The output signal is selected either as normal sound or Hi-Fi sound.

Remote control operation

The operation of the SVO-915P/965P is controlled with an external remote control unit with a serial control signal. Control with a 34-pin parallel signal or bi-directional serial signal (SVO-965P only) will also be possible using the optional devices.

Data set function

Various statuses such as VTR ID, audio limiter ON/OFF, AGC circuit ON/OFF, etc. can be set as desired on the front panel.

ID number recording function

The five-digit VTR ID can be recorded on a control track of a tape from beginning to end. The recorded VTR ID can be shown on the time counter display during playback.
When an SVRM-901 serial controller or SVRM-960 bi-directional remote control unit (optional) is used, a 12-digit USER ID such as the current date (year/month/day, etc.) can be recorded.

Compact and light weight

The unit is 27 cm (10¾ inches) wide and weighs only 7.0 kg (15 lb 7 oz) for easy installation and maintenance.

Low power consumption

The power consumption is only 25 W.

Automatic checking function (SVO-965P only)

When the SVRM-901 serial controller or SVRM-960 bi-directional remote control unit (optional) is set to the test mode, the VTR automatically records video and audio signals, and plays them back to check recording conditions.

Loop-through output

Loop-through output connectors are equipped for video and audio signals which allows signal distribution for up to four VTRs without a distributor.

AUTO OFF and STANDBY connectors

The connectors which output the VTR status or standby mode are provided.

Test terminals

Output signals of the video and Hi-Fi audio heads, and a PG signal are output from these test terminals to be observed on an oscilloscope.

Cassette changer available

An SVCC-960 automatic cassette changer and an SVAC-902 cassette holder (optional) can be attached to the SVO-915P/965P to supply up to four cassette tapes automatically.

For installation of optional equipment such as an automatic cassette changer, audio meter, control unit, etc., consult your Sony dealer.

Precautions

On safety

- Operate the unit only with a power source specified in the "Specifications" on page 15.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat buildup. Do no place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near a heat source such as a radiator or an air duct, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Never operate the unit in a vertical position.
- Keep the unit away from equipment with strong magnets as for example a large loudspeaker.

On operation

- When the unit is not in use, turn the power off.
- Remove and store video cassettes after recording or playback.
- Never operate the unit right after having transported it from a cold location directly to a warm location.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

On transportation

- Remove the video cassette when transporting the unit.
- Save the original carton and associated packing material. They will be useful should you have to transport or ship the unit.

If you have any questions about this unit, contact your Sony dealer.

Locations and Functions of Parts

Front Panel

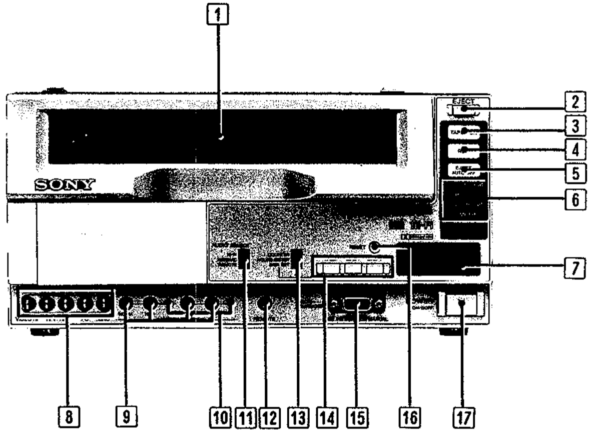


Photo: SVO-965 (NTSC)

1 **Cassette compartment**
Used to insert a cassette tape.

2 **EJECT button**
Used to eject a inserted cassette from the cassette compartment.
This button is also used to cancel auto-off mode.

3 **TAPE RUN indicator**
Lit: The tape is rewound, or runs rapidly.
Blinking: The tape is running.
Not lit: The part where no signal has been recorded is being played.

4 **REC (record) indicator**
Lit: In REC or REC PAUSE mode
Blinking: No video signal is being input while recording.

5 **EJECT/AUTO OFF indicator**
Lit: No cassette is inserted into the cassette compartment. (EJECT)
Blinking: Trouble with the VTR. (AUTO OFF)

6 **Record mode indication lamps**
Used to indicate the setting conditions with the data-setting buttons.
VIDEO AGC: Lights when VIDEO AGC is set to ON.
Hi-Fi: Lights when Hi-Fi audio recording is set to ON.
DOLBY NR*: Lights when the Dolby NR system is set to ON.
LIMITER: Lights when the limiter for normal audio recording is set to ON.
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ꟷꟷ are trademarks of Dolby Laboratories Licensing Corporation.

7 **Time counter display**
Used to show tape running time, accumulated time of the rotation of the head drum and data setting with the data setting buttons. The displayed data is selected with the counter-display select switch.
There are two kinds of data for accumulated time of the rotation of the head drum, resettable data and nonresettable data. The data are alternately displayed each time the ITEM button is pressed.

Locations and Functions of Parts

8 **Test terminals**
Used to check the video and Hi-Fi audio signals being played back. Connect these terminals to the corresponding terminals on an oscilloscope. The PG terminal outputs the video head switching signal which is used as the trigger signal for the oscilloscope.

9 **AUDIO LEVEL controls**
Used to adjust the audio recording level.
For adjustment, input a reference signal of 1 kHz, –10 dBu to the AUDIO IN connectors, and turn the controls until the AUDIO LEVEL indicators 10 light. When the SVAC-901 audio meter (optional) is attached, turn the controls so that the needles of the meters swing up to 0 VU.

10 **AUDIO LEVEL indicators**
When the audio recording level is 0 VU or higher, the indicators are lit.

11 **AUDIO SELECT switch**
Used to select the output audio signal.
Hi-Fi: The Hi-Fi audio signal is output.
NORMAL: The normal-recorded audio signal is output.
REMOTE: The audio signal selected with the remote control unit is output. Normally used in this position.

12 **REMOTE connector (minijack)**
Used to connect an RM-V200 remote control unit.

13 **Counter display select switch**
Used to select the data shown on the time-counter display.
COUNTER: Tape running time by counting the CTL signals recorded on the tape.
HOURS METER: Accumulated time of the rotation of the head drum. Resettable or nonresettable time is shown each time the ITEM button is pressed.
Maximum displayed time
Resettable time: 9999 hours
Nonresettable time: 99999 hours
DATA SET: Data setting mode using the data-setting buttons.

14 **Data-setting buttons**
Used to set the ID number, operation status of the VTR, etc.
ITEM: Used to select the item to be set.
DATA: Used to set the selected item to ON or OFF or the value of the selected item.
SHIFT: Used to select the digit of the data or a setting for the selected item.

15 **AUTO CHANGER connector (9-pin)**
Used to connect the optional SVCC-960 automatic cassette changer.

16 **RESET button**
Used to reset the data on the time-counter display.
When the accumulated time of the rotation of the head drum is shown on the display, the data is reset by pressing this button for more than 5 seconds. (Nonresettable time, however, cannot be reset.)

17 **POWER switch**
Press the switch to turn the VTR on.

Rear Panel

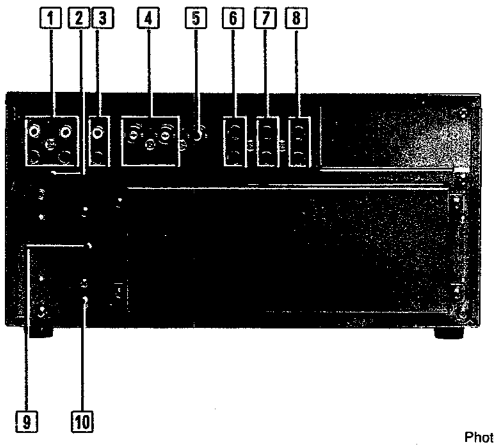


Photo: SVO-965 (NTSC)

1 **AUDIO IN CH-1/CH-2 connectors (phono jacks)**
Used to input the audio signals to be recorded.
For recording normal audio signals, input them to the AUDIO IN NORM connectors, and for recording Hi-Fi audio signals, to the AUDIO IN Hi-Fi connectors.

2 **SEPARATE/THROUGH switch**
Used to select the functions of the AUDIO IN connectors.
SEPARATE: The AUDIO IN NORM connectors accept the normal audio signals and the AUDIO IN Hi-Fi connectors the Hi-Fi audio signals respectively.
THROUGH: The input signals are directly output from the other connectors (loop-through output) allowing bridge connections of normal or Hi-Fi audio signals.

3 **AUDIO MONITOR CH-1/CH-2 connectors (phono jacks)**
Used to output the audio signal selected with the AUDIO SELECT switch on the front panel.

4 **VIDEO IN connector (BNC type) and 75-ohm termination switch**
Used to input the video signal to be recorded.
When a loop-through output signal is not used, set the 75-ohm termination switch to ON. When an output signal is used, set the switch to OFF.

5 **VIDEO OUT connector (BNC type) (SVO-965P only)**
Used to output a video signal.

6 **CTRL P connectors (phono jack)**
Used to connect an optional control unit. The control signal input to the IN connector is output from the OUT connector.

7 **AUTO OFF connectors (phono jack)**
When trouble occurs with this unit, operation stops and a warning signal is output from this connector to the external equipment.
When VTRs are connected with the bridge connection and trouble occurs with one of them, the signal is output.

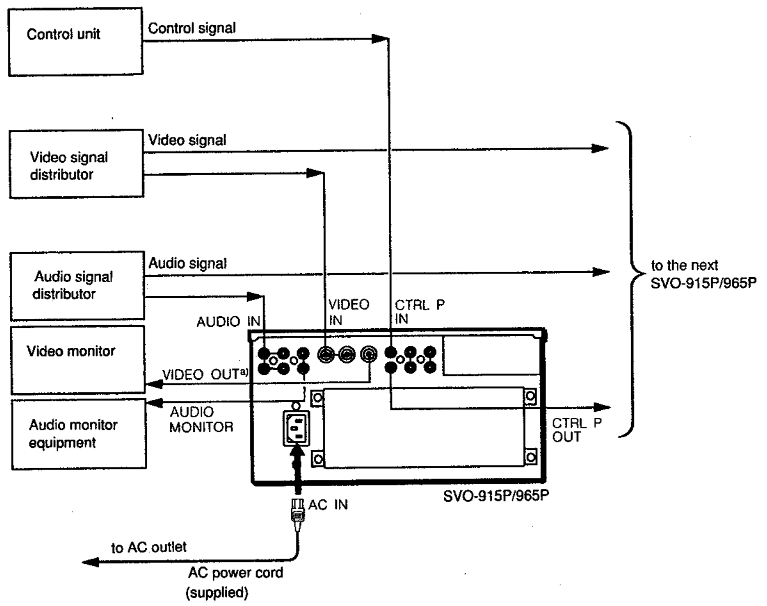
8 **STANDBY connector (phono jack)**
When the VTR is in a mode other than EJECT, STOP, REC or REC PAUSE, the signal is output to the external equipment.
When the VTRs are connected with the bridge connection and one of them is in the specified mode, the signal is output.

9 **AC IN receptacle**
Used to connect the AC output using the supplied AC power cord.

10 **GND (ground) terminal**
Used to ground the unit if required.

Connections

Basic Connections

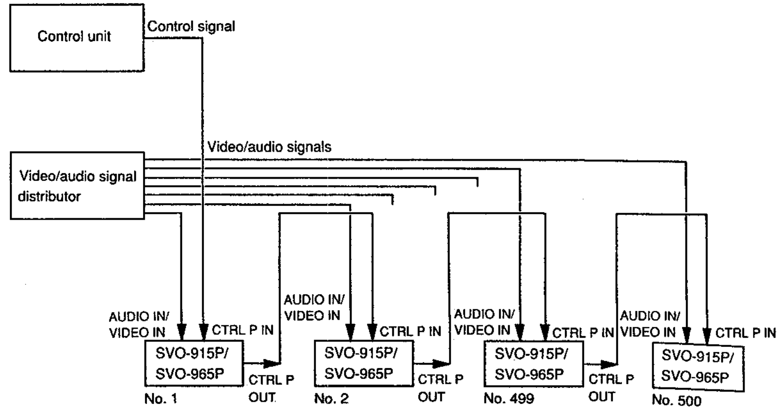

Control unit
Control signal
Video signal distributor
Video signal
Audio signal distributor
Audio signal
Video monitor
Audio monitor equipment
AUDIO IN
VIDEO IN
CTRL P IN
VIDEO OUTa)
AUDIO MONITOR
CTRL P OUT
to the next SVO-915P/965P
AC IN
SVO-915P/965P
to AC outlet
AC power cord (supplied)

a) VIDEO OUT is available only on the SVO-965P

System Connection Example

For serial control

- Up to 500 units of the SVO-915P/965P can be controlled when using the RM-V200 remote control unit (optional). Up to 2000 units or 1000 units of the SVO-965P can be controlled when using the SVRM-901 serial controller or the SVRM-960 bidirectional remote control unit (both optional), respectively.


Control unit
Control signal
Video/audio signal distributor
Video/audio signals
AUDIO IN/ VIDEO IN
CTRL P IN
SVO-915P/ SVO-965P
No. 1
CTRL P OUT
No. 2
No. 499
No. 500

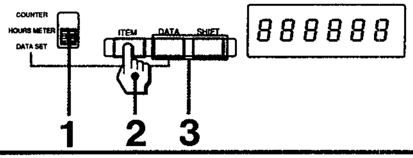
Data Setting

Set or display the data as follows:

1 Set the counter display select switch to DATA SET.
2 Select an item shown in the table by pressing the ITEM button.
3 Set or display the data by pressing the DATA or SHIFT button.

Note

The set data are stored in nonvolatile memory and maintained even if the power is turned off.
To change the data, however, the VTR must be kept turned on at least for 15 seconds.
If you change the data and turn off the VTR within 15 seconds after the recorder is turned on, the change will not be in effect.



Items	Time-counter display	How to set or display	Remarks
Setting the VTR ID	n00000	Press the SHIFT button to select the digit to be set, and press the DATA button to set the value.	—
Displaying USER ID (SVO-965P only)	Uid 000000 000000	Each time the SHIFT button is pressed, the three data are displayed alternately.	Data (date, time, etc.) sent from the control unit (SVRM-901 or SVRM-960)
Displaying the VTR ID of the tape being played back	tAPid 00000	—	For distinguishing the VTR used for recording
Displaying the USER ID of the playback tape	tAPUid 000000 000000	Each time the SHIFT button is pressed, the three data are displayed alternately.	—
ON/OFF of recording the VTR ID and USER ID	idr -On -$\boxed{\text{OF}}$	Each time the DATA button is pressed, the setting is toggled.	The data can be set with the remote control unit.
ON/OFF of the video AGC circuit	A9C -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	The data can be set with the remote control unit.
ON/OFF of a NORMAL AUDIO LIMITER	Lit -On -$\boxed{\text{OF}}$	Each time the DATA button is pressed, the setting is toggled.	The data can be set with the remote control unit.
ON/OFF of Hi-Fi audio recording	HFr -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	The data can be set with the remote control unit.
ON/OFF of Dolby NR recording	dOL -On -$\boxed{\text{OF}}$	Each time the DATA button is pressed, the setting is toggled.	The data can be set with the remote control unit.
ON/OFF of short FF (whether short FF is done when the beginning of the tape is detected)	SFF -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	—
ON/OFF of auto-rewind (whether the tape is rewound when the tape is inserted)	ArE -On -$\boxed{\text{OF}}$	Each time the DATA button is pressed, the setting is toggled.	—
ON/OFF of full-rewind (whether the tape is rewound to the beginning when the tape end is detected)	FrE -On -$\boxed{\text{OF}}$	Each time the DATA button is pressed, the setting is toggled.	—
Timing of the automatic cassette changer's operation (whether the changer is activated when the EJECT button on the remote control unit is pressed)	ACS -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	ON: The changer is activated when the EJECT button is pressed.
ON/OFF of recording depending on the existence of the video signal input	inP -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	OFF: The VTR is not set to record mode if a video signal is not input. Err-72 is displayed.
ON/OFF of the function to ignore the write-protect tab of the cassette tape	tAb -$\boxed{\text{On}}$ -OF	Each time the DATA button is pressed, the setting is toggled.	ON: Recording is executed even if the write protect tab is set to the write-protect position.

☐: Factory setting

Operation

1 Turn the power on.
The VTR ID is shown on the time counter display for several seconds, and after that, tape running time is shown.

2 Operate the tape duplication system with the remote control unit.

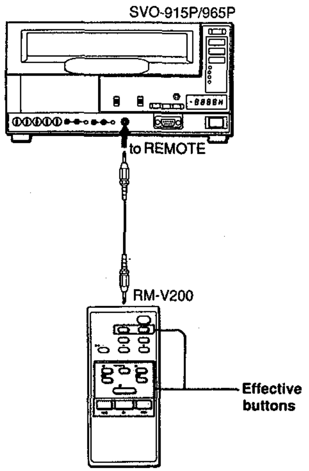
To control a single VTR

Connect the RM-V200 remote control unit (optional) to the REMOTE connector on the front panel or to the CTRL P connector on the rear panel, and set the CONTROL switch of the RM-V200 appropriately. The buttons on the unit which can be used for controlling the SVO-915P/965P are shown below.

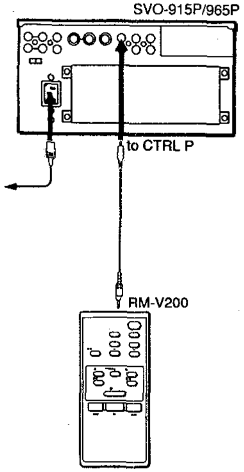
Note

When the RM-V200 is connected to the REMOTE connector, controlling with the other remote control units will be deactivated. To control the VTR with the unit connected to the connectors such as the CTRL P connector, be sure to disconnect the RM-V200 from the REMOTE connector.

To connect the RM-V200 to the REMOTE connector
Set the CONTROL switch of the RM-V200 to S.



To connect the RM-V200 to the CTRL P connector
Set the CONTROL switch of the RM-V200 to P.



The CONTROL switch of the RM-V200 is located inside the battery compartment at the rear.
Refer to the operating instructions of the RM-V200.

Automatic checking (SVO-965P only)

When the tape duplication system is controlled with the SVRM-901 serial controller or SVRM-960 bi-directional remote control unit, automatic checking is enabled by setting the SVRM-901 or SVRM-960 to the test mode. For checking the video signal, use the color bar signals. For checking the audio signal, the signal generated by the built-in generator is used.
For automatic checking, signals are recorded for a short period of time. Then the recorded part is played back to check the levels of the video and audio signals and the balance of the audio channels. When the checking is finished, the recorded signals are automatically erased. About 50 seconds are required for automatic checking.
When trouble is detected during checking, the VTR is automatically set to auto-off mode (the AUTO OFF indicator starts blinking) and the error code is shown on the time-counter display.

Although auto-off mode and error codes can be canceled by pressing the EJECT button, it is recommended to turn off the power and contact your Sony dealer.

Reference level
The levels have been set at the factory as follows. When a level lower than the reference level is detected during automatic checking, the VTR is set to auto-off mode, and the error code is displayed. To change the factory setting level, *consult your Sony dealer.*

RF level of a video signal: 250 mV
RF level of a Hi-Fi audio signal: 75 mV
Level of audio channels 1 and 2 recorded in normal mode:
−14 dBu
Balance of audio channel 1 and 2 recorded in normal mode:
6 dB

Error codes for the SVO-915P

Err-71 and Err-72 in the table on the next page are common to the SVO-915P.

Operation

Error codes

Main code	Subcode[a]	Contents of error
Err-01	—	The reel motor clockwise rotation is not normal.
Err-02	—	Tape slack
Err-03	—	A trouble at the capstan motor
Err-04	—	A trouble at the drum motor
Err-05	06	The reel rotation in FF or REW mode is not normal.
	07	The reel rotation during tape unloading is not normal.
	09	The reel rotation during search is not normal.
	0A	The reel rotation in PLAY or REC mode is not normal.
Err-20	02	The tape loading is not normal.
	03	The tape unloading is not normal.
	05	A trouble at the cassette compartment
	06	A trouble at the reel motor
	30	The servo lock is not normal.
Err-22	—	A trouble at the interface I/O of an optional board
Err-23	—	A trouble at the interface I/O
Err-30	—	A trouble at the tension sensor
Err-31	—	A trouble at the tape end sensor
Err-32	—	A trouble at the loading cam sensor

a) The subcode is displayed by pressing the SHIFT button.

Main code	Subcode[a]	Contents of error
Err-40	01	The RF level of the beginning part of the video signal of one field is not normal.
	02	The RF level of the center part of the video signal of one field is not normal.
	03	The RF level of the end part of the video signal of one field is not normal.
Err-50	01	The level of the audio channel 1 recorded in normal mode is not normal.
	02	The level of the audio channel 2 recorded in normal mode is not normal.
	03	The balance of audio channels 1 and 2 recorded in normal mode is not correct.
Err-51	01	The RF level of the beginning part of the Hi-Fi audio signal of one field is not normal.
	02	The RF level of the center part of the Hi-Fi audio signal of one field is not normal.
	03	The RF level of the end part of the Hi-Fi audio signal of one field is not normal.
Err-70	00	When automatic checking is to be executed, the part where no signal has been recorded cannot be found, and the VTR cannot enter record mode for checking.
	01	Recording in automatic checking is executed on a cassette with the write-protect tab in the write-protect position. (This code appears when "tAb-OF" has been set in data-setting mode.
Err-71	00	The tape end is detected while recording.[b]
Err-72	00	While recording, no video signal is input. (This code appears when "InP-OF" has been set in data-setting mode.)
Err-90	—	A trouble at the interface I/O

b) This tape end detection can be deactivated or delayed by 30 seconds with internal DIP switch settings. With delayed detection, you can eliminate the error indication with key input within 30 seconds after the end of a tape.
For the internal settings, consult your Sony dealer.

Specifications

System

Video signal system	CCIR standards, PAL color
Recording system	Rotary 2-head Azimuth recording, VHS standards Luminance: FM recording Color signal: converted subcarrier phase shift recording

Video

Inputs	VIDEO IN (BNC type) ×1 (with loop-through output) 1.0 Vp-p, 75 ohms (with termination switch), unbalanced, sync negative
Outputs (SVO-965P only)	VIDEO OUT (BNC type) ×1 1.0 Vp-p, 75 ohms, unbalanced, sync negative
Horizontal resolution	More than 240 lines
S/N	More than 44 dB

Audio

Inputs	AUDIO IN CH-1/CH-2 NORM, Hi-Fi (phono jacks) ×1 each –10 dBu (0 dBu = 0.775 V), 47 k ohms
Outputs	AUDIO MONITOR CH-1/CH-2 (phono jacks) ×1 each –10 dBu (0 dBu = 0.775 V), 47 k ohms
Channels	4 channels Normal (CH-1/CH-2) : stationary head (2 tracks) Hi-Fi (CH-1/CH-2) : 2 rotary heads
S/N	More than 43 dB (with Dolby NR off)
Frequency response	Normal: 50 Hz to 10 kHz Hi-Fi: 20 Hz to 20 kHz
Dynamic range	More than 90 dB (Hi-Fi)

Tape transport

Tape speed	23.39 mm/sec.
Recording time	180 minutes (with E180)
Fast forward and rewind time	Within 2.5 minutes (with E180)
Usable tape	VHS standards cassettes tapes

General

Remote control	Serial signal
Power requirements	220 to 240 V AC, 50/60 Hz
Power consumption	25 W
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	270 × 132 × 370 mm (w/h/d) ($10\frac{3}{4} \times 5\frac{1}{4} \times 14\frac{5}{8}$ inches) without including projecting parts and controls
Mass	7.0 kg (15 lb 7 oz)
Supplied accessories	AC power cord (1) Operating instructions (1)

Design and specifications are subject to change without notice.

Recommended equipment and accessories

Audio meter SVAC-901
34-pin interface board SVBK-901
Bi-directional interface board SVBK-902 (for SVO-965P only)
Bi-directional remote control unit SVRM-960 (for SVO-965P only)
Serial controller SVRM-901
Remote control unit RM-V200
Automatic cassette changer SVCC-960

For details on the recommended equipment and accessories, please consult your Sony dealer.

SECTION 2
SERVICE OVERVIEW

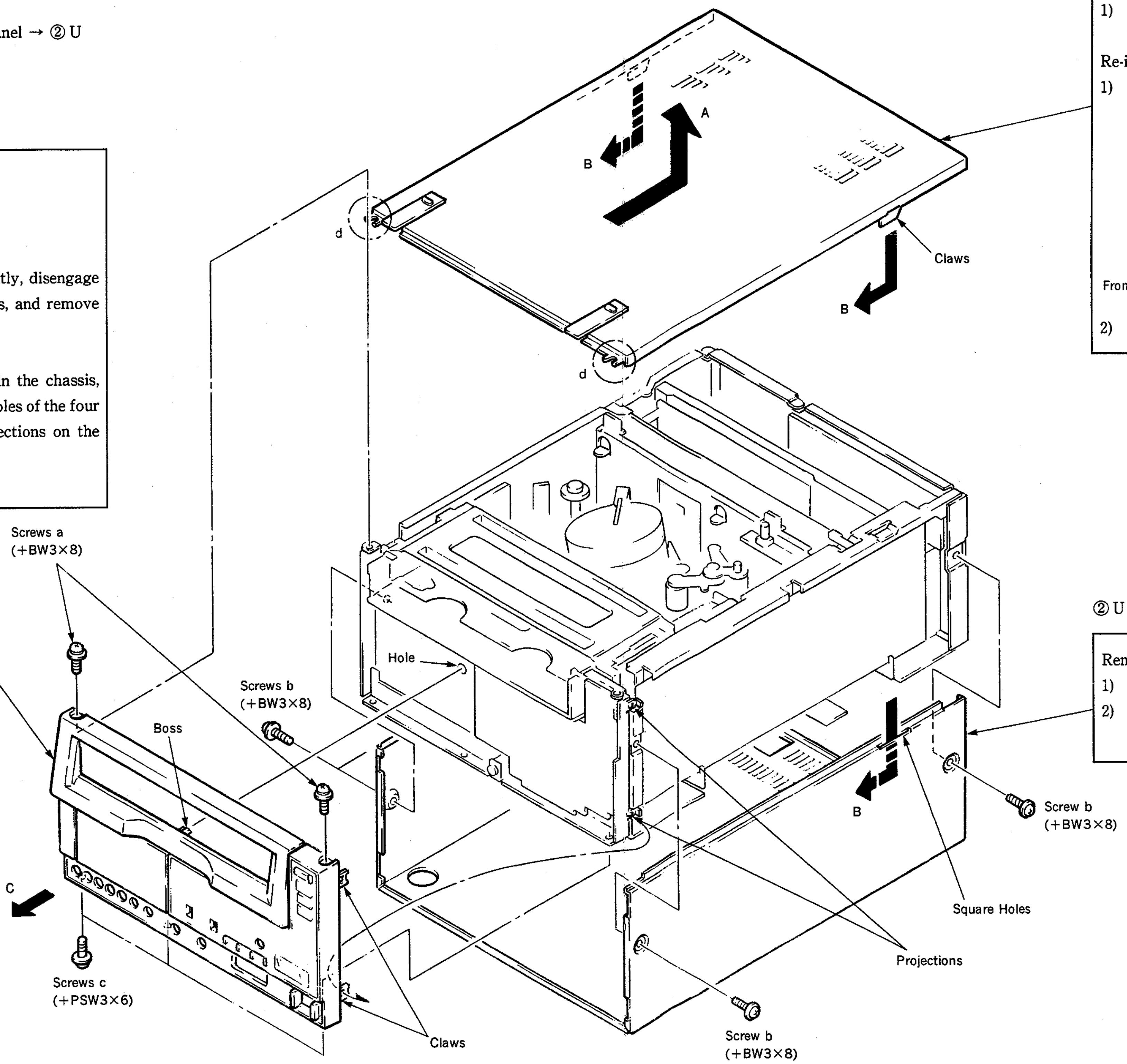
2-1. HOW TO REMOVE AND RE-INSTALL THE EXTERNALS

Remove the externals in the sequence ① Top panel → ② U case → ③ Front panel.

③ Front panel

Removal
1) Remove the top panel.
2) Remove the U case.
3) Remove the three c screws.
4) Open the four left and right claws slightly, disengage them from the projections in the chassis, and remove then in the direction of arrow C.

Re-installation
1) While aligning the boss with the hole in the chassis, push in the front panel until the square holes of the four left and right claws lock into the projections on the chassis.
2) Fix the panel with the three c screws.


A
B
d
d
Claws
B
Screws a
(+BW3×8)
Hole
Screws b
(+BW3×8)
Boss
C
Screws c
(+PSW3×6)
Claws
B
Screw b
(+BW3×8)
Square Holes
Projections
Screw b
(+BW3×8)

① Top panel

Removal
1) Remove the two screws a, then remove the panel in the direction of arrow A.

Re-installation
1) Insert the two left and right claws into the square holes in the U case, then move the d part in the direction of arrow B and insert it between the front panel and the chassis. (Fig. 1)

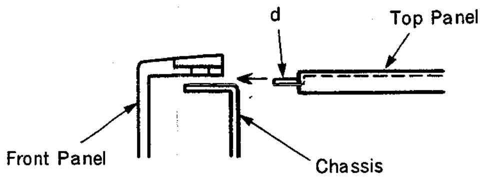

d
Top Panel
Front Panel
Chassis

Fig. 1

2) Fix the top panel with the two screws a.

② U case

Removal
1) Remove the top panel.
2) Place the unit with the top face at the bottom, then remove the four left and right screws b.

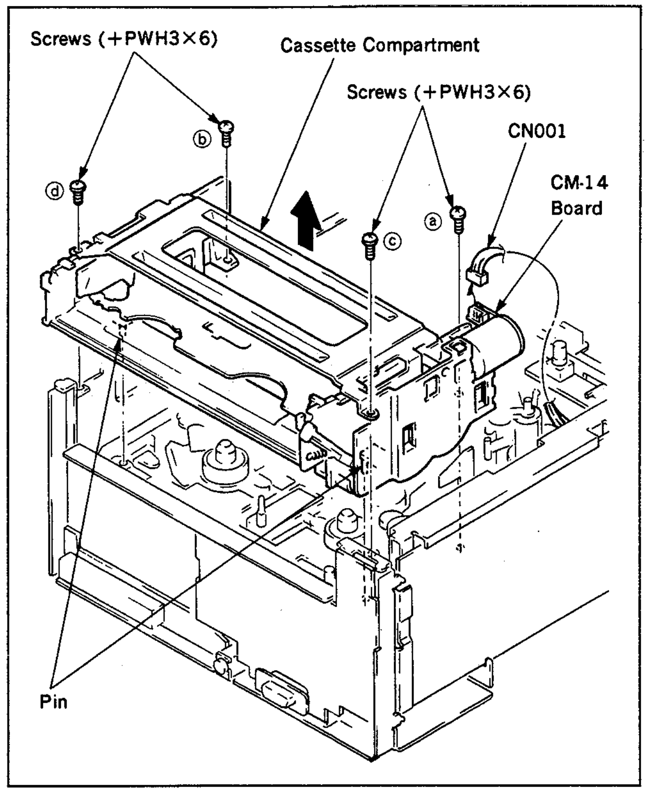
2-2. HOW TO REMOVE THE CASSETTE COMPARTMENT (FL ASS'Y)

1. Remove the top panel, U case and front panel according to sub-section 2-1.
2. Disconnect connector CN001 from the CM-14 board.
3. Remove the four screws, then remove the cassette compartment in the direction of the arrow.

Note on installation

①Align the two pins of cassette compartment to the holes of mechanical shassis.

②Tighten the screws in order of steps ⓐ to ⓓ.

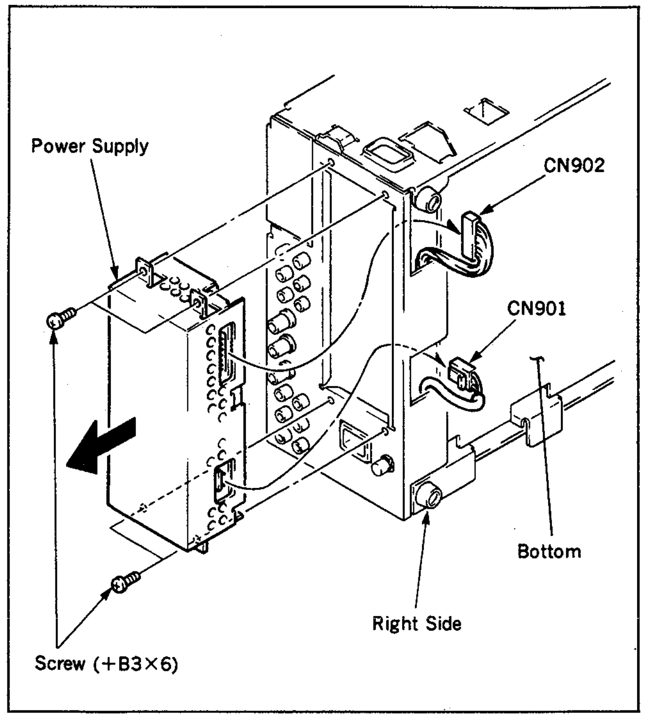

Screws (+PWH3×6)
Cassette Compartment
Screws (+PWH3×6)
CN001
ⓑ
ⓓ
CM-14 Board
ⓒ
ⓐ
Pin

2-3. HOW TO REMOVE THE POWER SUPPLY

1. Remove the top panel and the U case according to sub-section 2-1.
2. Stand up the unit with the right side at the bottom.
3. Disconnect connectors CN901 (3-pin, white) and CN902 (10-pin, white).
4. Remove the four screws, then remove the power supply in the direction of the arrow.

Note on installation

Place the power supply in such a way that when it is reinstalled the connectors are at the bottom of the unit.


Power Supply
CN902
CN901
Bottom
Right Side
Screw (+B3×6)

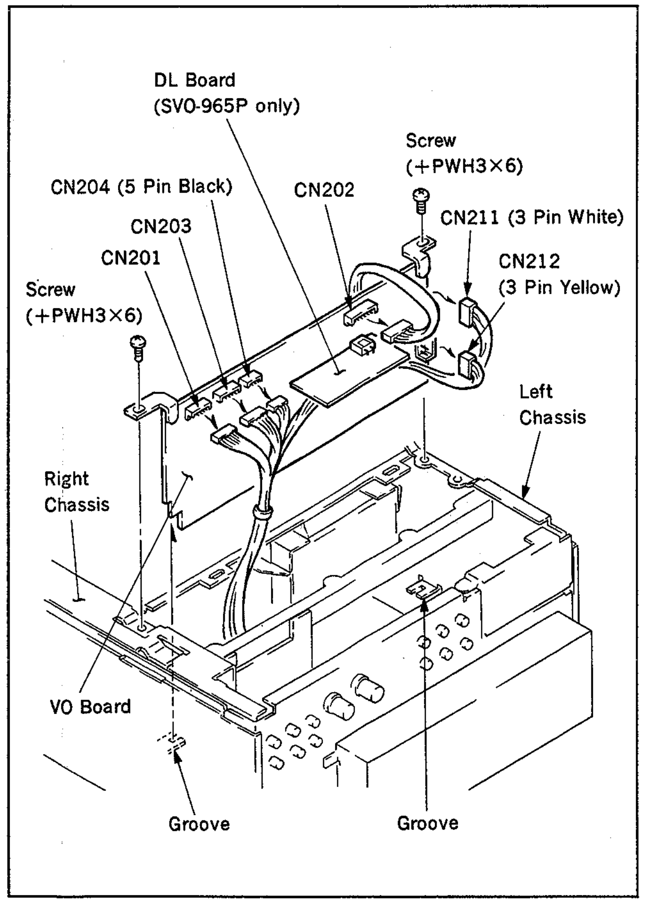
2-4. HOW TO SERVICE THE PRINTED CIRCUIT BOARD

2-4-1. How to remove the VO Board

1. Remove the top panel according to sub-section 2-1.
2. Remove the two screws.
3. Pull up the VO board.
4. Disconnect the connectors shown in the figure:
   CN201, 202, 203, 211/VO board.
   CN204, 212 (SVO-965P only)

Note on installation

Align the VO board with grooves in the left/right chassis.

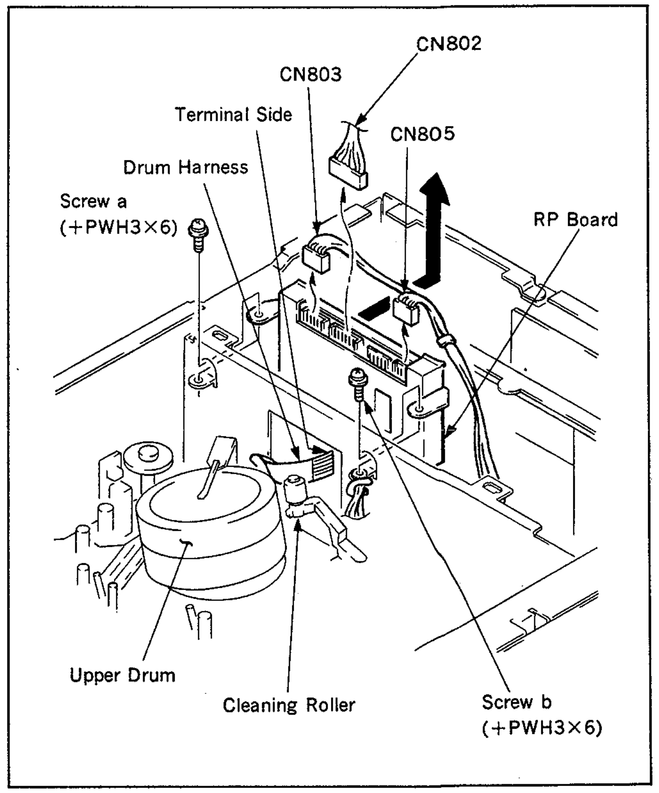

DL Board
(SVO-965P only)
Screw
(+PWH3×6)
CN204 (5 Pin Black)
CN202
CN203
CN211 (3 Pin White)
CN201
CN212
(3 Pin Yellow)
Screw
(+PWH3×6)
Left
Chassis
Right
Chassis
VO Board
Groove
Groove

2-4-2. How to remove the RP Board

1. Remove the top panel according to sub-section 2-1.
2. Disconnect connectors CN802, 803 and 805 from the RP board.
3. Remove the VO board according to sub-section 2-4-1. (Note that, there is no need to disconnect the connectors.)
4. Remove the two screws a and b.
5. Remove the drum harness.
6. Remove the RP board together with the shield case in the direction of the arrow.

Note on installation

1) Be careful of the direction of the terminals when reconnecting the drum harness.
2) Confirm that the drum harness does not touch the upper drum and the cleaning roller.

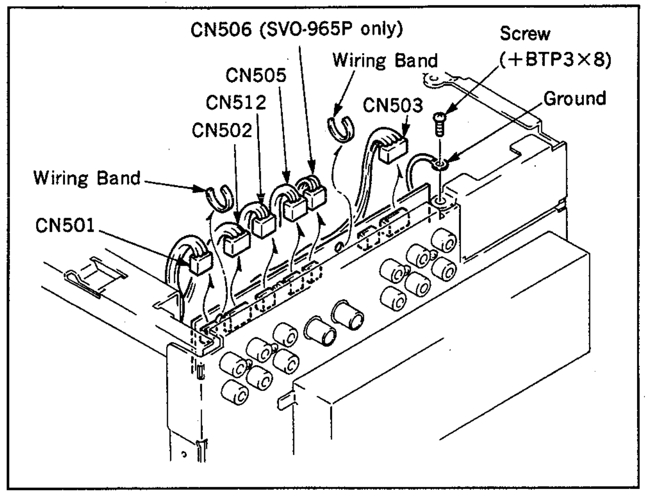

CN802
CN803
Terminal Side
CN805
Drum Harness
Screw a
(+PWH3×6)
RP Board
Upper Drum
Cleaning Roller
Screw b
(+PWH3×6)

2-4-3. How to remove the CP Board

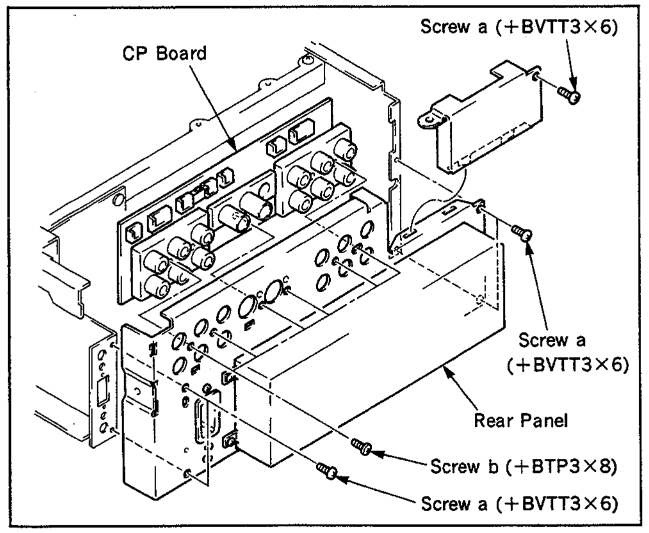
1. Remove the top panel and U case according to sub-section 2-1.
2. Cut and remove the wiring bands fixing the harness (rear) to the CP board.
3. Disconnect connectors CN501, 502, 503, 505, 506 (SVO-965P only) and 512 from the CP board.
4. Remove the screw (+BTP3×8), then remove the ground.

Note on installation

- Bind the harness (rear) once again with cord, etc.


CN506 (SVO-965P only)
Screw
(+BTP3×8)
Wiring Band
CN505
CN512
CN503
Ground
CN502
Wiring Band
CN501

5. Remove the five screws (+BVTT3×6) a.
6. Remove the six screws (+BTP3×8) b.
7. While moving the rear panel, remove the CP board.

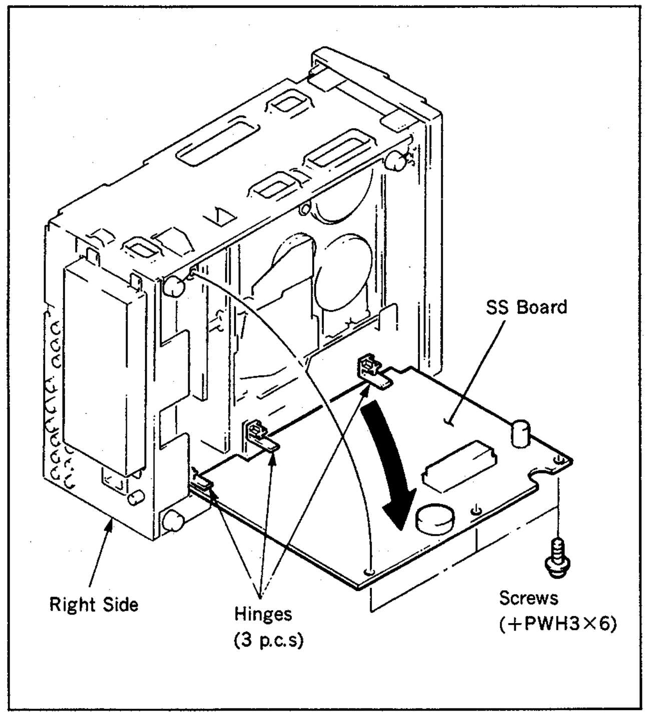

Screw a (+BVTT3×6)
CP Board
Screw a
(+BVTT3×6)
Rear Panel
Screw b (+BTP3×8)
Screw a (+BVTT3×6)

2-4-4. How to open the SS Board

1. Remove the top panel and the U case according to sub-section 2-1.
2. Stand up the VTR with the right side face downward.
3. Remove the three screws, then open the SS board in the direction of the arrow.

How to remove the SS board.

1. Disconnect all of the connectors coming from the main unit, from the SS board.
2. Remove the three hinges from the SS board.


SS Board
Right Side
Hinges
(3 p.c.s)
Screws
(+PWH3×6)

2-5. MEMORY KEEP FUNCTION OF NOVRAM (SS BOARD)

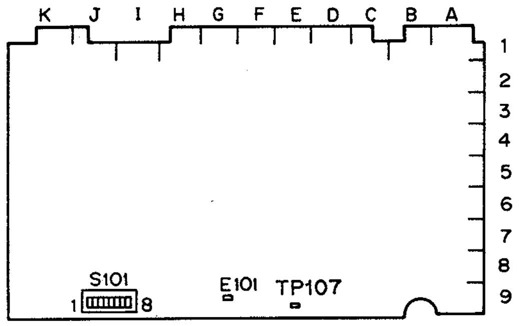
The SS board has NOVRAM BR9021B (IC102) which saves the hours meter data and the menu setting data. It also has NOVRAM memory backup capacitor (C103).
When the SS board, capacitor or NOVRAM is replaced, the data set prior to replacement will be lost. It is necessary to perform the initial settings for the NOVRAM, then perform menu setting once again. In this case, however, the hours meter value, threading count, cassette in count and pinch roller ON count will be cleared to zero, and cannot be set again. (If it is necessary to replace a part, it is recommended that you make a record of the data in the memory prior to replacing the part.)

- NOVRAM initial setting (same as factory setting)

(1) Set No.1 and No.5 switches of DIP switch S101 on the SS board (J-9) to on.

Note: When the TR board or tracking volume is replaced, set only No.1 switch of DIP switch S101 to ON.
In this case, the DC voltage data of center position of tracking volume in NOVRAM is changed.

(2) Short TP107 (E-9) and E101 (GND)(G-9)on the SS board with a short clip.
(3) Turn the tracking control knob on the TR board to the FIXED position, then turn the POWER ON.
(4) Remove the shorting clip, then set No.1 and No.5 switches of S101 to off.
(5) Turn the POWER OFF.

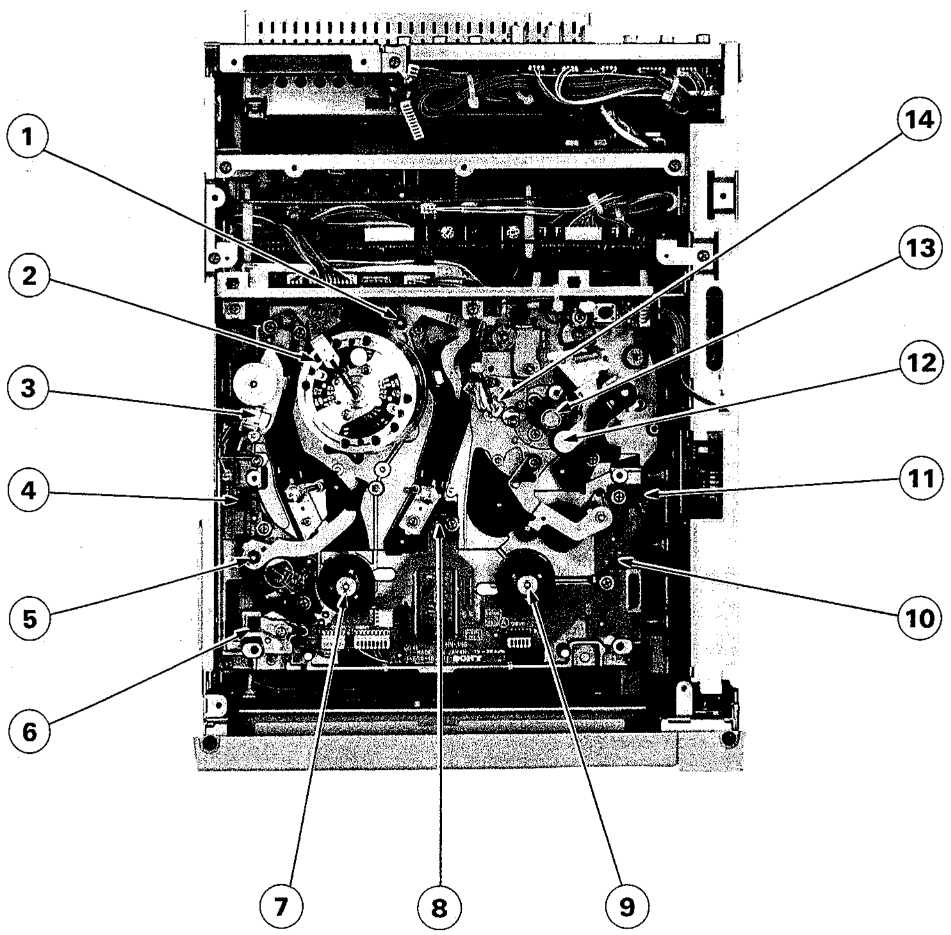

K J I H G F E D C B A
1
2
3
4
5
6
7
8
9
S101
1
8
E101
TP107

SS Board Component Side

2-6. LOCATION OF MAIN PARTS

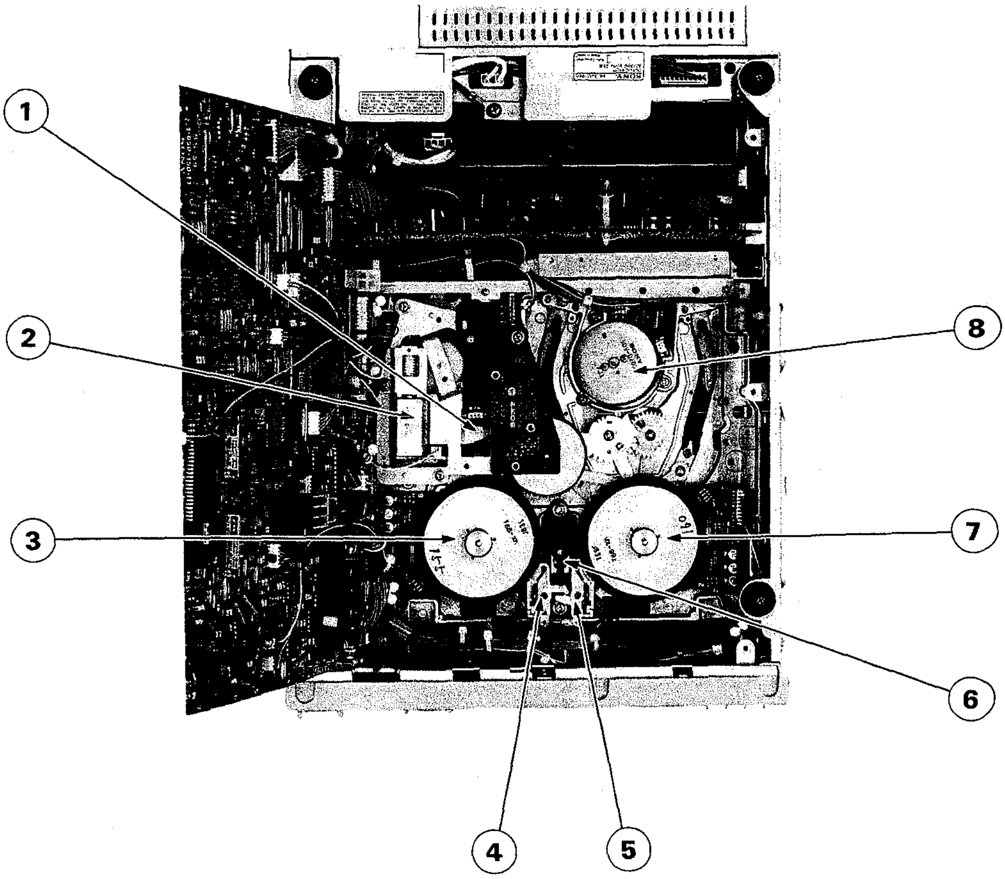
2-6-1. Location of the Main Mechanical Parts/Components

(TOP VIEW)



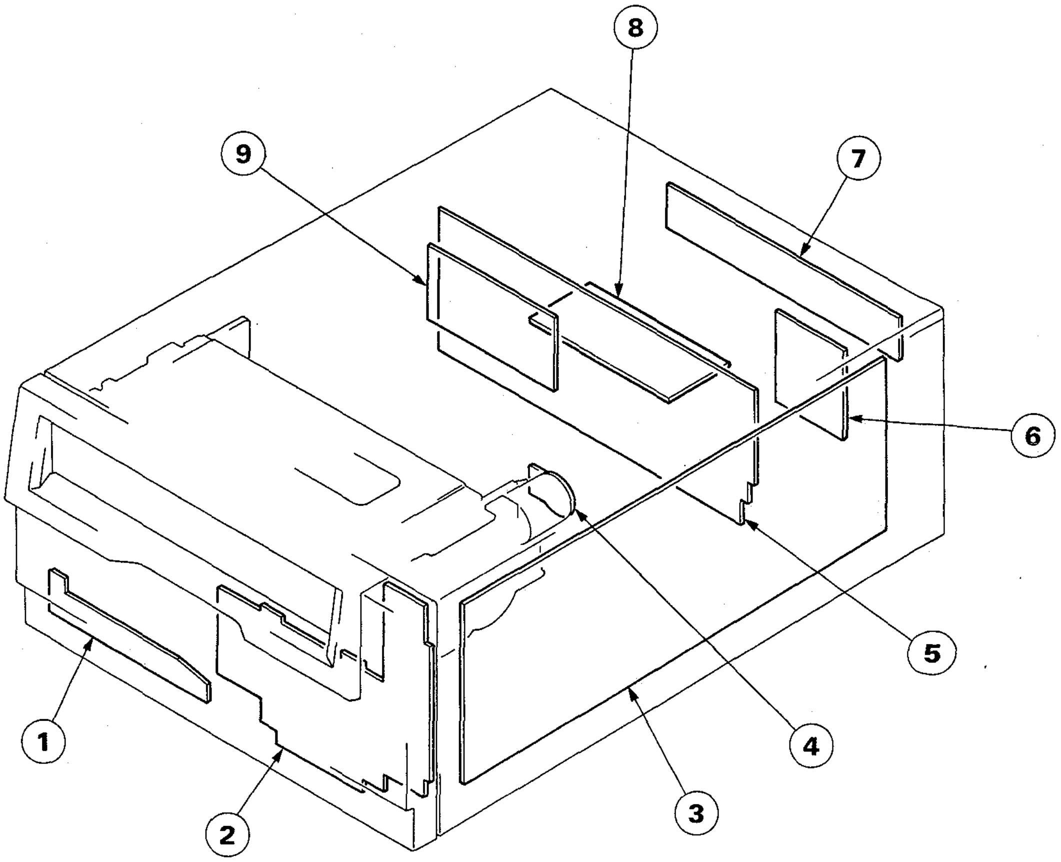
- ① Cleaning Roller
- ② Drum Assembly
- ③ Full Erase Head
- ④ Tape End Senser
- ⑤ Tension Regulator
- ⑥ Miss REC Switch
- ⑦ Supply Reel Table
- ⑧ Tape Top/End LED
- ⑨ Take-up Reel Table
- ⑩ Cassette Down Switch
- ⑪ Tape Top Senser
- ⑫ Pinch Roller
- ⑬ Capstan Shaft
- ⑭ AUDIO/CTL Head

(BOTTOM VIEW)

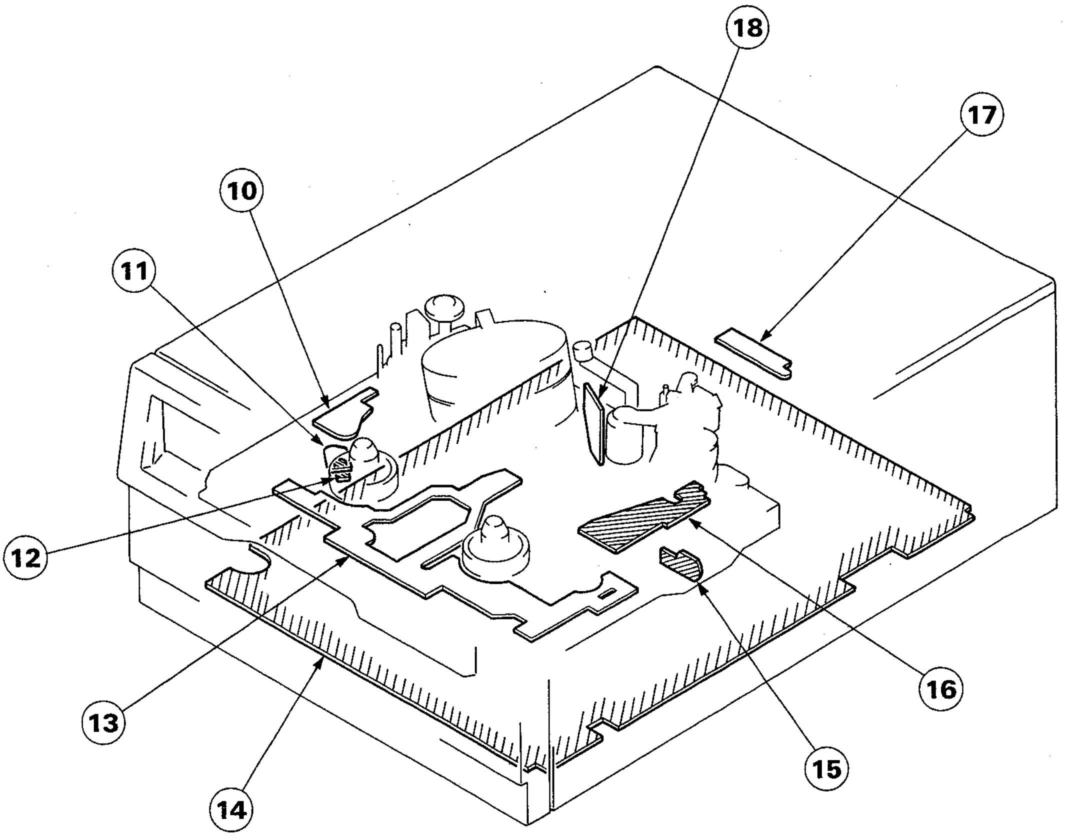


① Capstan Motor
② Cam Motor Assembly
③ Take-up Reel Motor
④ T • Brake Arm
⑤ S • Brake Arm
⑥ Brake Solenoid
⑦ Supply Reel Motor
⑧ Drum Assembly

2-6-2. Location of the Printed Circuit Boards



	SVO-965P (EK)	SVO-965P (UC)	SVO-915P (EK)
①	VR-125 Board		
②	KY-194A Board		
③	AU-190B Board		AU-190C Board
④	CM-14 Board (Cassette Compartment)		
⑤	VO-48 Board		VO-48A Board
⑥	AC-103A Board	AC-103 Board	AC-103A Board
⑦	CP-151 Board		CP-151A Board
⑧	DL-44 Board		————
⑨	RP-77 Board		



	SVO-965P (EK)	SVO-965P (UC)	SVO-915P (EK)
⑩	SE-224 Board		
⑪	SE-230 Board		
⑫	LE-131 Board		
⑬	HN-198 Board		
⑭	SS-59B Board (Include DA-49 Board)	SS-59D Board (Include DA-49 Board)	SS-59C Board (Include DA-49 Board)
⑮	LE-35 Board		
⑯	PTC-73 Board		
⑰	TR-68A Board		
⑱	AH-28 Board		

2-7. PRINTED CIRCUIT BOARD

SYSTEM	BOARD	CIRCUIT FUNCTION
VIDEO	RP-77	Video/Hi-Fi Head Amp
	VO-48/A	Y/C Video Process
	DL-44	CCD 1H Delay
AUDIO	AU-190B/C	Hi-Fi Process/Normal Audio Process
	AH-28	Audio/Erase/CTL Head
	VR-125	Audio Level Control
SERVO SYSTEM CONTROL	SS-59B/C/D	Servo, System Control
	DA-49	DA Converter
	CM-14	Cassette Compartment Motor
	LD-35	Loading Motor
	LE-131	Tension Regulator LED
	PTC-73	CAM Mode Detect
	KY-194A	Function Key Board
	SE-224	Tape End Sensor
	HN-198	Tape Top Sensor, Tape Top/End LED, Connection
	SE-230	Tension Regulator CDS Detect
	SW-668	Miss Rec
	TR-68A	Tracking/Switching Position Volume
POWER	AC-103/A	AC Inlet Switching Regulator
OTHER	CP-151/A	Connector Panel

2-8. CONNECTORS

When external cables are connected to the various connectors on the connector panel during maintenance, the hardware listed below (or equivalents) must be used.

PANEL INDICATION	CONNECTOR
VIDEO IN VIDEO OUT (SVO-965P only)	1-560-069-11 PLUG, BNC, MALE
AUDIO IN AUDIO MONITOR CTRL P AUTO OFF STANDBY	1-506-138-11 PLUG, PHONO

2-9. CONNECTOR INPUT/OUTPUT SIGNAL

The connector INPUT/OUTPUT signals of the connector panel are as follows.

INPUT

VIDEO IN : 1.0 V p-p, 75 Ω, Unbalanced, Sync negative

AUDIO IN : −10 dBs (0 dBs=0.775 V), 47 kΩ CH-1/L, CH-2/R NORM, Hi-Fi

OUTPUT

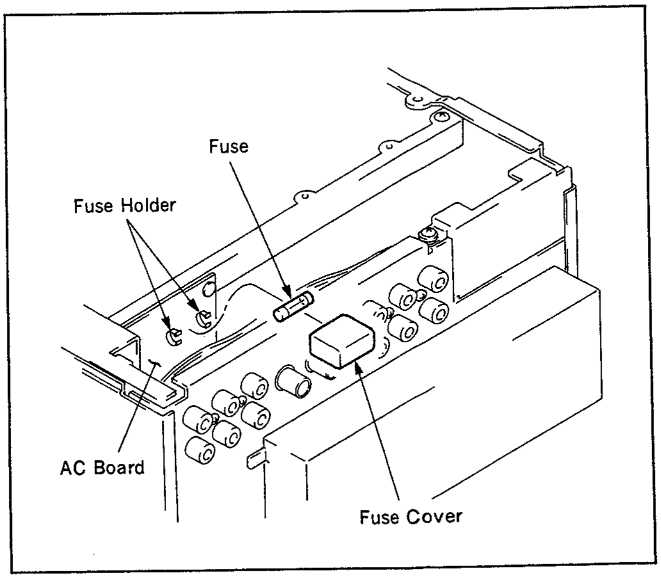
VIDEO OUT (SVO-965P only) : 1.0 V p-p, 75 Ω, Unbalanced, Sync negative

AUDIO MONITOR : −10 dBs (0 dBs=0.775 V), 47 kΩ CH-1/L, CH-2/R

2-10. FUSE REPLACEMENT

Power fuse is mounted on the AC board. If the fuse has blown first remedy cause of trouble, replace the fuse.

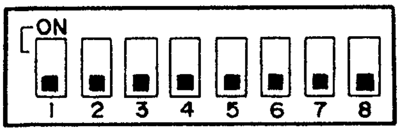
1. Remove the top panel. (Refer to Sec.2-1 Cabinet Removal and Installation)
2. Remove the fuse cover on the AC board, and replace the fuse.



2-11. SWITCH SETTING

- SS Board

S101-1 to S101-8 : OFF (factory setting)



Function of S101 switches (ON position)

S101-1 : Error detection signal muting/tracking center position detection

Error detection signal muting :

This switch disables error signals of system control block. Even though the unit operation is stopped due to error detection, it can proceed to the next unit operation.

Tracking center position detection :

Turn the tracking control volume to center click position. Short between TP107 and GND, and turn the power ON. The center position of tracking volume is stored in the microprocessor (IC102/SS) as DC voltage data.

S101-2 :

This switch set the tape run display from blinking to lighting.

When press the STOP button of remote control unit about 5 seconds, release the AUT OFF function.

S101-3 : old CTL cording format

This switch set the CTL cording format to old one during recording.

S101-4 :

This switch inhibits the error display of tape end detection during recording.

S101-5 : MENU initialize

The content of MENU setting is reset into the content of initial setting.

S101-6 :

The error display is apper after about 30 seconds from detecting of tape end error during recording.

S101-7 ; service mode

Ordinaly maintenance work in done in OFF.

S101-8 : TOP/END sensor muting

This switch mutes tape top and tape end detection signals.

Note : Reset this switch to OFF after useing. If this switch is set to ON and cassette tape is set, reel tables rotation can not stop at tape top or tape end. The head tips and tape guides may be damaged.

2-12. SPARE PARTS

(1) The ⚠ -marked components are critical to safety. Replace only with the same components as specified.

(2) Replacement parts supplied from the Sony Parts Center will sometimes have a different shape from the original parts. This is due to the use of improved parts and/or to engineering changes or standardization of genuine parts. This manual's exploded views and electrical spare parts list indicate the part numbers of the standardized genuine parts in use at present. Regarding parts in our engineering department, refer to Sony service bulletins and service manual supplements.

(3) The parts marked with **s** in the SP column of the exploded views and electrical spare parts list are normally stocked for replacement purposes. The parts marked with o in the SP column are not normally required for routine service work. Orders for parts marked with **o** will be processed, but allow for additional delivery time.

2-13. HOW TO OPERATE THE CASSETTE COMPARTMENT ASS'Y AND THE VTR WITHOUT TAPE

(1) Remove the cassette compartment according to sub-section 2-2.
(2) Turn ON No. 8 switch of DIP switch S101/SS board (J-9). (This is to neutralize the tape top/end sensor function)
(3) Push down the CASSETTE DOWN switch with tape, etc.
(4) Turn the POWER switch ON.

In this condition, the VTR can be operated from the remote controller (RM-V200, RM-V100, SVRM-100 etc.).

Note: Be sure to turn No. 8 switch OFF after completion of operation.

[Operating the VTR with the cassette compartment removed and a cassette tape loaded]

- Be sure to turn OFF No. 8 switch of DIP switch S101. (If the DIP switch is turned ON, the tape will not stop at the tape top/end, resulting in possible damage to the head tip and deformation of the tape guide.)

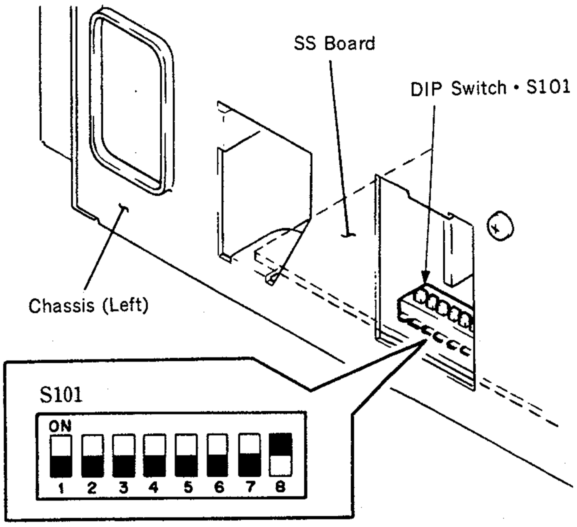


Fig. 1

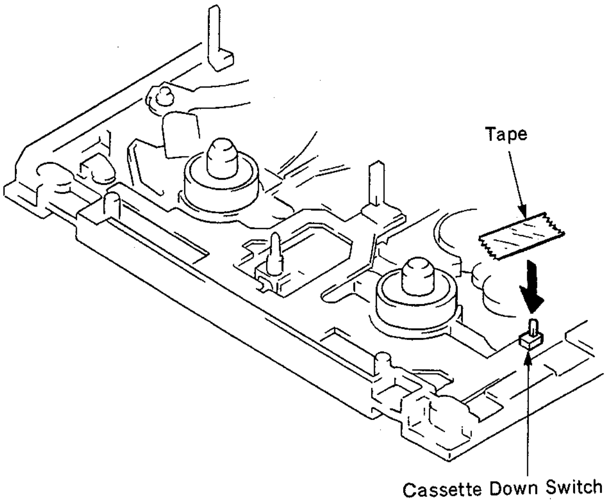


Fig. 2

2-14. HOW TO REMOVE CASSETTE TAPE WHEN IT CANNOT BE EJECTED

1. Remove the top panel and the U case according to sub-section 2-1.
2. Open the SS board according to sub-section 2-4-4.
3. Remove the screw, then remove the cam motor ass'y from the drive gear ass'y. (Fig. 1)
4. Rotate the worm wheel of the drive gear ass'y with the fingers in the direction of the arrow until the tape threading guides are in the unthreading end state. (Fig. 1)
5. Rotate the S side reel motor with the fingers in the direction of the arrow so that the tape is taken up into the cassette. (Fig. 1)
6. Rotate the loading motor of the cassette compartment ass'y with the fingers in the direction of arrow A, and eject the cassette. (Fig. 2)

How to re-install the cam motor ass'y

1) Fit the groove of the cam motor ass'y over the 'a' face of the drive gear ass'y. (Fig. 1)
2) Align the hole in the cam motor ass'y with the projection on the drive gear ass'y. (Fig. 1)
3) Set the cam motor parallel to the 'b' face of the drive gear ass'y, then screw it fixed. (Fig. 3)

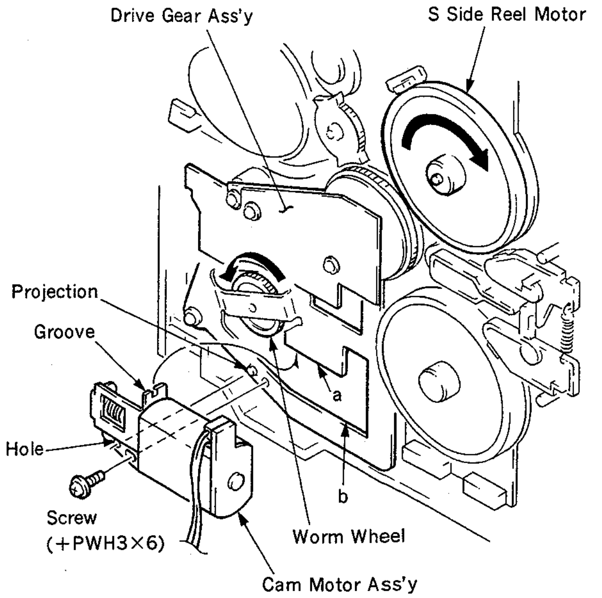

Drive Gear Ass'y
S Side Reel Motor
Projection
Groove
Hole
a
b
Screw
(+PWH3×6)
Worm Wheel
Cam Motor Ass'y

Fig. 1

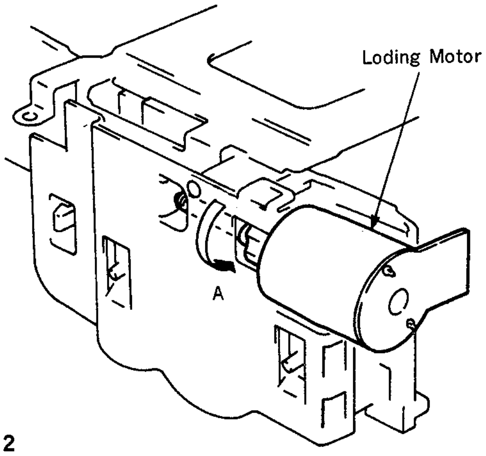

Loding Motor
A

Fig. 2

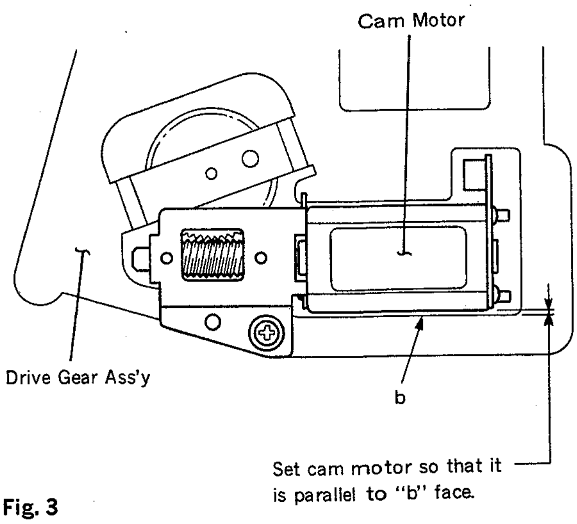

Cam Motor
Drive Gear Ass'y
b
Set cam motor so that it is parallel to "b" face.

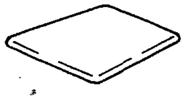
Fig. 3

2-15. FIXTURE

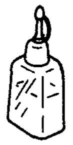
Ref. No	Part No.	Description	For Use
J-1	2-034-697-00	Cleaning Cloth	Cleaning
J-2	9-919-573-01	Cleaning Fluid	Cleaning
J-3	7-700-736-05 7-700-736-06	L-shaped Hexagonal Wrench (1.5 mm) L-shaped Hexagonal Wrench (0.89 mm)	Reel table ass'y replacement Guide roller ass'y replacement
J-4	7-700-751-02	Box Screwdriver (5.5 mm)	Tape path alignment
J-5	8-192-602-17	Alignment Tape, KRV-23PS	Switching position adjustment
	8-192-602-48	Alignment Tape, KRV-4821PSA	Audio head adjustment
	8-192-603-16	Alignment Tape, KRV-31PS	Audio alignment
	8-192-603-96	Alignment Tape, KRV-39PF	Audio alignment
	8-192-603-56	Alignment Tape, KRV-35PF	Video, audio alignment
J-6	9-911-053-00	Thickness Gauge	Guide roller replacement
J-7	J-6080-840-A	Small Mirror	Tape path alignment
J-8	J-6080-811-A	Tape Guide Adjustment screwdriver	Tape guide height adjustment
J-9	J-6082-044-A	Tape Guide Adjustment screwdriver	Tape guide height adjustment
J-10	J-6380-040-A	RG Reference Pin (1)	Drive gear replacement
J-11	J-6380-050-A	RG Reference Pin (2)	Drive gear replacement
J-12	J-6380-080-A	Reference Plate	Reel table, tape guide height adjustment, audio head azimuth/zenith adjustment
J-13	J-6380-090-A	Reel Table Height Adjustment Tool	Reel table height adjustment
J-14	J-6380-700-A	Master Block	Tape guide height adj., audio head azimuth/zenith adjustment
J-15	J-6380-550-A	Master Block	Tape guide height adjustment
J-16	J-6380-710-A	X Value Adjustment Tool	X value adjustment
J-17	J-6090-014-A	Molykote grease EM-30LG	greasing
	4-918-645-01	Molykote grease EM-30L	greasing
J-18	Commercially Sold	Tentelometer, T2-H7-UMC	Tape tension adjustment
J-19	Commercially Sold	Head Degausser	Head degauss

NOTE 1 : Require Remote Control Unit RM-V100 or RM-V200 (option) to moving the VTRs When you repair this set.
NOTE 2 : TENTEL and TENTELOMETER are registered trademark of TENTEL Corp., Campbell, CA U. S. A.

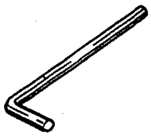
J-1



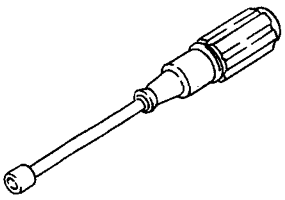
J-2



J-3



J-4



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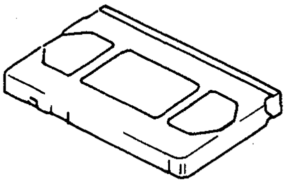
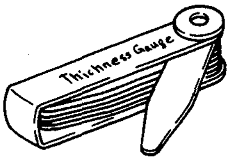
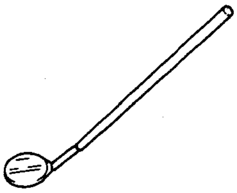


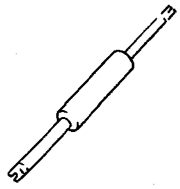
J-6


Thickness Gauge

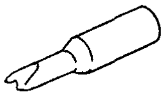
J-7



J-8



J-9



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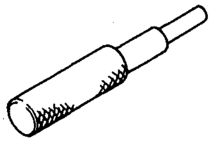

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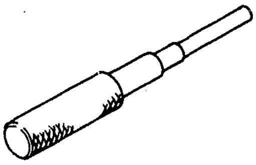

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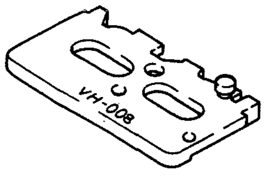
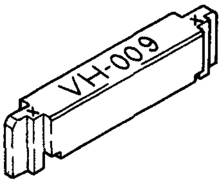
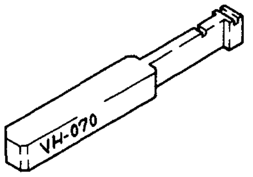


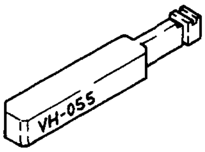
J-13



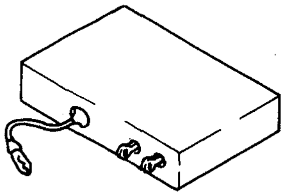
J-14



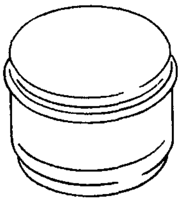
J-15



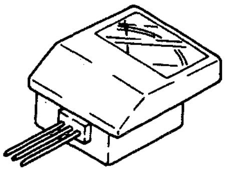
J-16



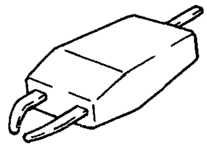
J-17



J-18



J-19



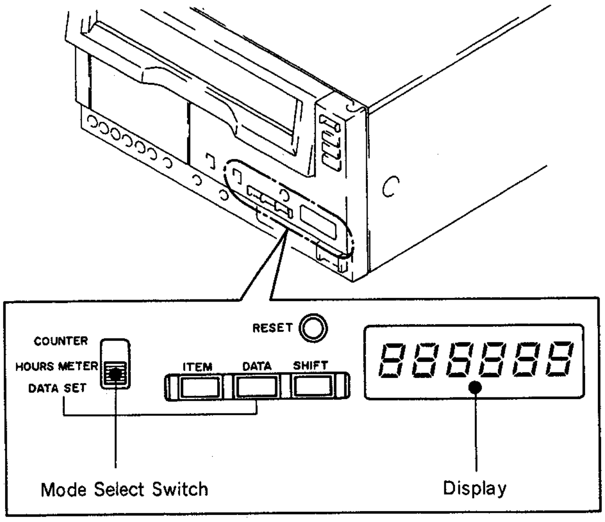
2-16. TEST MENU

This VTR is provided with the necessary test menu for performing maintenance, inspection and repair.
The test menu has the following six modes.

Mode	Functions
1. Function key mode	VTR operation function used when there is no remote controller
2. Data display mode	Data display during and after VTR operation
3. Test level setting mode	Video and audio signal level setting
4. Self diagnostic mode	Self diagnostic function
5. NOVRAM setting mode	Correcting variations in centering of tracking control
6. Data setting mode	Data setting for ID No., VTR operating condition, etc. (For details, see "Data Setting" in the operation manual.)

Operating method

The test menu is operated with the switches/buttons on the front panel. The selected mode appears on the test display.



2-16-1. Function Key Mode

This VTR has no function keys. Normally, it is operated using the remote controller. If there is no remote controller, the buttons on the VTR can be used as function keys.

- **Mode setting**

  Short TP102/KY board (B-5) and TP104/KY board (E-2) with a shorting clip.

- **Operation method**

  Operate the mode select switch, then press the [ITEM], [DATA], [SHIFT] or [RESET] button. (See table below.)

OPERATION BUTTON		ITEM	DATA	SHIFT	RESET
Mode Select Switch	COUNTER mode	STOP key	FF key	REW key	RESET key
	HOUR METER mode	PLAY key	REC key	FWD•SEARCH key	REV•SEARCH key

Example of operation

FF ▷ STOP → [DATA] button ▷ [ITEM] button

REC → Press the [ITEM] button and [DATA] button simultaneously.

PLAY ▷ STOP → [ITEM] button ▷ Set the mode select switch to the COUNTER mode ▷ [ITEM] button

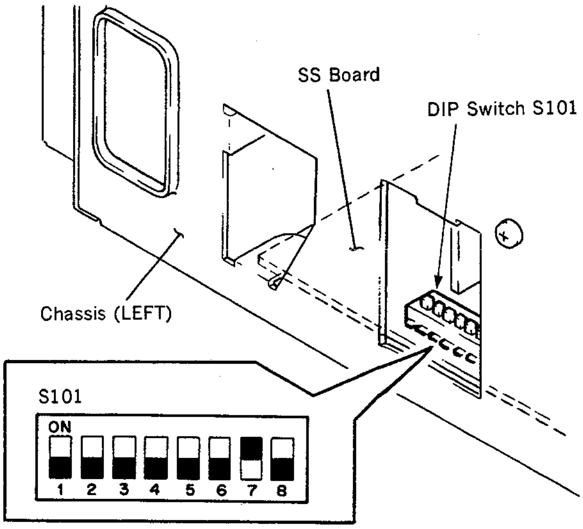
Caution : Remove the shorting clip after the end of the function key mode.

2-16-2. Data Display Mode

The state of the VTR and data obtained during and after operation appear on the display. There are 29 menus. Use them to check the various parts of the VTR.

- **Mode setting**

1. Set No. 7 switch of DIP switch (S101/SS board (J-9)) to the ON side.
2. Set the mode select switch to COUNTER.

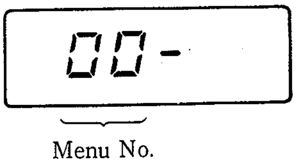


• Operation method

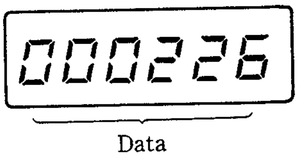
Press the [ITEM] button to select the desired menu.

Each time the button is pressed, the menu will change progressively from No. 00 to 28.

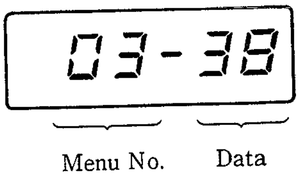
1. Menu No. 00 to 02
   Press the [ITEM] button.



   Press the [SHIFT] button. The contents of the data will be displayed.



2. Menu No. 03 to 28
   Press the [ITEM] button. The menu No. and the contents of the data will be displayed.



3. To cancel the data display mode, turn No. 7 switch OFF.

• Data contents

No. 00 to 02, No. 06 to 15, No. 23 to 28 .... Indicates the state of the inside of the microprocessor.
No. 03 to 05, No. 16 to 22 .... Indicates the input/output port of the microprocessor.

The data is indicated as a hexadecimal number. (Excluding menu No. 00 to 02)

Menu No.	Data contents	Input/output port of corresponding microprocessor
00	Number of threading operations (indicated as a decimal number between 0 and 999999)	
01	Number of cassette IN operations (indicated as a decimal number between 0 and 999999)	
02	Number of pinch ON operations (indicated as a decimal number between 0 and 999999)	
03	Peripheral block control (1)	PA0~PA7
04	Peripheral block control (2)	PB0~PB7 } IC101/SS board
05	Peripheral block control (3)	PH0~PH7
06	Command to mechanism	
07	Status to mechanism	
08	Cam position status	
09	Cassette status	
10	Command to servo block	
11	Servo block status	
12	Drum servo mode	
13	Capstan servo mode	
14	Tracking control A/D result	
15	Switching position control A/D result	
16	Reel status	P20~P23, P30~P33
17	T side reel torque value	P40~P43, P50~P53
18	S side reel torque value during program tension	P60~P63, P70~P73
19	Reel control (1), peripheral block control (4)	P80~P83, P90~P93 } IC306/SS board
20	Sensor LED open circuit detection	PTH03~PTH00
21	Reel control (2), peripheral block control (5)	P120~P123, P130~P133
22	Peripheral block control (6)	P140~P143
23	Key input status (1)	
24	Key input status (2)	
25	Remote controller key input status (1)	
26	Remote controller key input status (2)	
27	Display data (1) to LED	
28	Display data (2) to LED	

DATA DESCRIPTION DETAILS

MENU NO.	DATA DESCRIPTION (IF IT ISN'T WORTH SPECIAL MENTION, IT IS HEXADECIMAL DIGIT.)							
	bit7	bit6	bit5	bit4	bit3	bit	bit1	bit0
00	THREADING TIMES (DECIMAL DIGIT : 0~999999)							
01	CASSETTE IN TIMES (DECIMAL DIGIT : 0~999999)							
02	PINCH ROLLER ON TIMES (DECIMAL DIGIT : 0~999999)							
03	AFM REC	HiFi REC MODE						
04	$\overline{\text{CAPSTAN FWD}}$	$\overline{\text{REC}}$	NOMAL AUDIO OUT	LAU SEARCH MODE	LOAD	CCON	CW	
05					$\text{EE}/\overline{\text{PB}}$	$\overline{\text{AU EE}}$	$\overline{\text{AFM MUTE}}$	LAU MUTE
06	MECHA COMMAND (01 : EJECT, 02 : STOP, 03 : FF, 04 : REW, 10 : PLAY/REC, 20 : PAUSE, 30 : FWD SEARCH, 40 : REV SEARCH)							
07	MECHA STATUS (01 : EJECT, 02 : STOP, 03 : FF, 04 : REW, 05 : LOADING/UNLOADING, 10 : PLAY/REC, 20 : PAUSE, 30 : FWD SEARCH, 40 : REV SEARCH)							
08	PINCH ON	PINCH ON ~THREADING END	THREADING END	BRAKE MODE	BRAKE MODE ~FRSTOP	FRSTOP	FRSTOP ~UNTHREADING END	UNTHREADING END
09				CASSETTE EXIST	$\overline{\text{TAPE END}}$	$\overline{\text{TAPE TOP}}$	$\overline{\text{CASSETTE DOWN}}$	$\overline{\text{CASSETTE IN}}$
10	SERVO DIRECTION CMD H : FWD L : REV		SERVO PLAY CMD	SERVO REC CMD	SERVO PAUSE CMD	SERVO SEARCH CMD	SERVO ×5VV SCH CMD	SERVO ENABLE CMD
11		VIDEO IN DETECT	CTL EXIST	NOISELESS STILL REQ	CAPSTAN STOP	DRUM STOP	CAPSTAN LOCK	DRUM LOCK
12	DRUM SERVO MODE (0 : OFF MODE, 1 : REC/PLAY MODE, 2 : AFC MODE)							
13	CAPSTAN SERVO MODE (0 : OFF MODE, 1 : REC MODE, 2 : PLAY MODE, 3 : PINCH OFF MODE, 4 : ×5VV SCH MODE, 5 : SEARCH MODE, 6 : PLAY PAUSE MODE, 7 : REC PAUSE MODE)							
14	A/D DATA OF TRACKING CONTROL VOLUME (IT DISPLAY "80" IN THE VOLUME CENTER, IT USUALLY DISPLAY WITHIN "70" TO "90".)							
15	A/D DATA OF SWITCHING POSITION VOLUME							
16					T-REEL STATUS H : FWD L : REV	$\overline{\text{T-REEL STOP}}$ H : ROTATE L : STOP	S-REEL STATUS H : FWD L : REV	$\overline{\text{S-REEL STOP}}$ H : ROTATE L : STOP
17	T-REEL TORQUE							
18	S-REEL TORQUE							
19	$\overline{\text{AGC OFF \& PB}}$	(EP)	(LP)	SP	PAUSE TENSION	T-REEL COMMAND L : FWD H : REV	S-REEL COMMAND L : FWD H : REV	BRAKE ON
20							$\overline{\text{TEN-REG LED BROKEN}}$	$\overline{\text{TOP/END LED BROKEN}}$
21	STANDBY	DOLBY ON	AFM OUT SELECT	$\overline{\text{LIMITTER ON}}$	$\overline{\text{TOP/END LED ON}}$	TENSION-REG CHARGE CLEAR	$\overline{\text{TENSION-REG ON}}$	REEL CONTROL MODE L : SPEED H : TORQUE
22					$\overline{\text{TEST TONE OFF}}$	TEST TONE SELECT	LAU ENV SELECT	VO/AU ENV SELECT
23				EJECT KEY ON	RESET KEY ON	SHIFT KEY ON	DATA KEY ON	ITEM KEY ON
24					MODE SW =COUNTER	MODE SW =DATA SET	AUDIO SEL =HIFI	AUDIO SEL =REMOTE
25	REMOTE STOP IN		REMOTE FF IN	REMOTE REW IN	REMOTE PAUSE IN	REMOTE PLAY IN	REMOTE REV IN	REMOTE FWD IN
26		REMOTE REC IN	REMOTE EJECT IN	REMOTE START IN				
27		$\overline{\text{CHANGER AUTO OFF}}$				AGC LED ON	HiFi LED ON	DOLBY LED ON
28		TAPE RUN LED ON	LIMITTER LED ON	$\overline{\text{CHANGER CASSE DOWN}}$	$\overline{\text{CHANGER CASSE UP}}$	$\overline{\text{CHANGER START}}$	AUTO OFF LED ON	REC LED ON

2-16-3. Test Level Setting Mode

The standard levels of this VTR have been set at the factory.

RF level of video signal: 250 mV
RF level of Hi-Fi audio signal: 75 mV
Levels of channels 1 and 2 of the normal recorded audio: −14 dBs
Balance between the normal recorded audio channels: 6 dB

This mode is used to change the set levels.

The following three menus are provided.

(1) VIDEO RF LEVEL SET
(2) AFM RF LEVEL SET
(3) NORMAL AUDIO LEVEL SET

• Mode setting

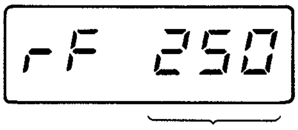
1. Set the mode select switch to DATA SET.
2. While pressing the [RESET] and [DATA] buttons simultaneously, turn the [POWER] switch ON.

• Operation method

1. Press the [ITEM] button to select a menu.
2. Press the [DATA] button to select the setting level.
3. To clear the test level setting mode, set the mode select switch to HOUR METER or COUNTER.

(1) VIDEO RF LEVEL SET

The RF level of the video signal can be set in steps of 50 mV between 150 mV and 450 mV.

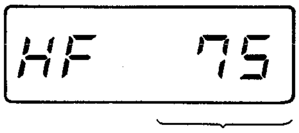


Factory setting

RF (mV)	150	200	250	300	350	400	450

(2) AFM RF LEVEL SET

The RF level of the Hi-Fi audio signal can be set in steps of 25 mV between 50 mV and 150 mV.

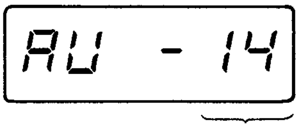


Factory setting

RF (mV)	50	75	100	125	150

(3) NORMAL AUDIO LEVEL SET

The levels of CH-1 and CH-2 of the normal recorded audio can be set in steps of −1 dBs between −16 dBs and −11 dBs.



Factory setting

OUT (dBs)	−11	−12	−13	−14	−15	−16

2-16-4. Self Diagnostic Mode

The following two Kinds of automatic checks can be performed in the diagnostic mode.

(1) Operation function and recording/playback level
(2) Communications in the KY board

If an error occurs, carry out a check according to the displayed error code.

1. Self diagnosis of operation function and recording/playback level

Carry out self diagnosis using serial controller SVRM-901.

Carry out recording and playback for a short period using the non-recorded part at the beginning or end of the tape, then check the recording and playback levels, and also the balance between the audio channels. Once the part of the tape that has been recorded for checking purposes has been checked, the tape will be automatically rewound and erased.

If an error occurs, the auto OFF mode will be activated automatically, the AUTO OFF indicator will flash, and an error code will appear on the display.

• Preparations

1) Input color bar signals to the VIDEO IN connector on the rear panel.
2) Load a video cassette into the VTR.
3) Connect the serial controller SVRM-901 to the VTR.

• Operation method

Press the [TEST] button of the SVRM-901.

Automatic checking will start, then stop after about 50 seconds.

• ERROR CODES

This set provides an error display function that displays the error if a trouble condition occurs.
When a failure is detected in the normal operating state, the error is immediately displayed on the time counter display at the front.
In most cases, when an error occurs, the system enters the protective action and stops to operate.
Each error is displayed by its error code and the current operating state at the occurrence of the error is displayed by its sub error code.
The contents of the error codes are given below.
Note that to display the sub error code, press the SHIFT button.

	Error code	Sub error code	Error Contents	Error detecting method	Possible failure
Servo system error	Err-01	—	No reel rotation/reel stoppage • The reel motor would not operate for a specific time in the reel operation mode, the tape protective action was executed.	The rotational speed obtained from the FG output of Supply or Takeup reel motor is zero for a specific time.	• Cut or coiling tape • Improper operation of RVS guide • Improper operation of tension regulator assembly (TG-2 guide) • Faulty circuit in tension sensor system • Poor adjustment of tape tension/torque • Malfunction of capstan motor • Improper operation of pinch roller block assembly • Faulty circuit in reel FG system • Malfunction of S/T reel motor • Break or poor connection of harness • Improper operation of reel brake • Faulty circuit in tape top/end sensor system (when an error occurred at tape top/end.)
			Incorrect direction of reel rotation • The reel motor was rotating in an incorrect direction for a specific time in the reel operation mode; the tape protective action was executed.	The direction of reel rotation obtained from the FG output of Supply or Takeup reel motor is incorrect for a specific time.	
		06 .... 09 .... 0A	Failure detected in F FWD/REW mode. Failure detected in search mode. Failure detected in playback/record mode.	————	
	Err-03	00	No capstan rotation • The capstan motor would not operate for a specific time; the tape protective action was executed. (*1)	The rotational speed obtained from the FG output of capstan motor is zero for a specific time.	• Malfunction of capstan motor • Faulty circuit in capstan FG system • Break or poor connection of harness
			No capstan servo operation • The capstan servo would not operate for a specific time; the tape protective action was executed.	The rotational speed obtained from the FG output of capstan motor is not locked within a specific time.	
	Err-04	00	No drum rotation/drum stoppage • The drum motor would not rotate for a specific time in the drum rotation mode; the tape protective action was executed.	The rotational speed obtained from the FG output of drum motor is less than the specified value for a specific time.	• Tape coiling around drum • Break or poor connection of harness • Malfunction of drum motor • Faulty circuit in drum FG/PG system
			No drum servo operation • The drum servo would not operate within a specific time in the record mode; the tape protective action was executed.	With servo reference locked, the rotational speed from the FG output of drum motor and the phase of rotation from the PG output are not locked within a specific time.	

*1; If the capstan won't rotate in the playback/record mode or if the capstan stops on the way in the playback/record/search mode, the system will first of all detect the condition that Takeup reel won't rotate or stops and Err-1 be activated.

	Error code	Sub error code	Error Contents	Error detecting method	Possible failure
Servo system error	Err-05		Incorrect increase of reel rotational speed · The rotational speed of reel motor became incorrectly faster in the reel operation mode ; the tape protective action was executed. (∗2)	The rotational speed obtained from the FG output of reel motor is more than the specified value for a specific time.	· Cut tape · Looseness of set screws for securing the reel base assembly · Damaged reel base assembly
		00 .... 06 .... 07 .... 09 .... 0A	Failure detected in PAUSE mode. Failure detected in F FWD/REW mode. Failure detected in unthreading. Failure detected in search mode. Failure detected in playback/record mode.	————————	
Mechanism and system control system error	Err-20	Unable to display	There was a failure in communication from KY board to SS board ; the protective action was executed.	The system microcomputer judged that the data sent from KY board microcomputer is faulty, and then the KY board microcomputer receives that information from the system microcomputer.	· Break or poor connection of harness (∗3) · Fault in microcomputer of KY board
		02	Failure in threading operation · The threading operation was not completed within a specific time ; the operation was stopped.	The threading operation was not completed in a specific time after commanded by system microcomputer.	· Damaged projection of BC roller assembly · Failure in reel motor brake operation · Malfunction of loading motor · Improper gear position of loading unit · Improper detection by cam mode sensor · Break or poor connection of harness
		03	Failure in unthreading operation · The unthreading operation was not completed within a specific time ; the operation was stopped.	The unthreading operation was not completed in a specific time after commanded by system microcomputer.	————————
		06	Failure of cassette compartment operation · The cassette up/down operation was not completed within a specific time ; the operation was stopped.	The cassette up/down operation was not completed in a specific time after commanded by system microcomputer.	· Malfunction of cassette compartment motor · Improper operation of cassette compartment · Malfunction of cassette in/miss REC switch · Malfunction of cassette down switch · Break or poor connection of harness
			Reel motor won't stop · When the mode is switched from F FWD/REW to STOP mode, the reel motor would not stop within a specific time ; the protective action was executed. (∗2)	The rotational speed obtained from the FG output of reel motor was not zero in a specific time.	· Cut tape · Faulty circuit in reel FG system
		30	Failure in communication with reel microcomputer · The system microcomputer was unable to communicate with the reel microcomputer ; the protective action was executed.	The system microcomputer failed to make a correct communication with the reel microcomputer continuously by specific times. (∗4)	· Failure in 4 MHz clock of reel microcomputer · Fault in enable circuit of serial interface · Fault in reel microcomputer
	Err-22	00	There was a failure in communication with the option (SVBK-901/902) ; the protective action was executed.	The system microcomputer failed to make a correct communication with the microcomputer on the option side continuously by specific times. (∗4)	· Break or poor connection of harness · Failure in clock of microcomputer on option side · Fault in enable circuit of serial interface · Fault in microcomputer on option side

∗2 ; If tape is cut, the protective action may fail to be executed and the reel motor may continue to rotate.
In this case, the power of VTR should be turned off to stop the motor to rotate.

∗3 ; Break of the harness connected to pin 2 of CN152 is the most probable fault.

∗4 ; After this error is displayed, if the communication failure is avoided, the error display will be released without turning off the power.

	Error code	Sub error code	Error Contents	Error detecting method	Possible failure
Sensor system error	Err-30	00	Failure in the tension regulator LED was detected; the protective action was executed.	The voltage of the tension regulator LED failure detection input to the reel microcomputer was set at High level (logic level) continuously for a specific time.	• Fault in tension regulator LED • Break or poor connection of harness • Fault in detection circuit • Fault in reel microcomputer
	Err-31	00	Failure in the tape top/end LED was detected; the protective action was executed.	The voltage of the tape top/end LED failure detection input to the reel microcomputer was set at High level (logic level) continuously for a specific time.	• Fault in tape top/end LED • Break or poor connection of harness • Fault in detection circuit • Fault in LED ON/OFF circuit • Fault in reel microcomputer
	Err-32	00	LED failure in the cam mode sensor was detected; the protective action was executed. (*5)	The voltage of the cam mode LED failure detection input to the system microcomputer was set at High level (logic level) continuously for a specific time.	• Fault in cam mode sensor LED • Break or poor connection of harness • Fault in detection circuit • Fault in system microcomputer
Video system error	Err-40	01	Abnormality in the RF level at the beginning of the 1-field video signal	—	—
		02	Abnormality in the RF level at the middle of the 1-field video signal	—	—
		03	Abnormality in the RF level at the end of the 1-field video signal	—	—
Audio system error	Err-50	01	Abnormality in the level of CH-1 of the normal recorded audio	—	—
		02	Abnormality in the level of CH-2 of the normal recorded audio	—	—
		03	Abnormality in the balance between CH-1 and CH-2 of the normal recorded audio	—	—
	Err-51	01	Abnormality in the RF level at the beginning of the 1-field Hi-Fi audio signal	—	—
		02	Abnormality in the RF level at the middle of the 1-field Hi-Fi audio signal	—	—
		03	Abnormality in the RF level at the end of the 1-field Hi-Fi audio signal	—	—
Duplicator error	Err-70	—	During an automatic check, the VTR fails to enter the recording mode because there is no non-recorded passage on the tape.	—	—
	Err-71	—	During recording, the tape end was detected. (This error is not detected if No. 4 switch of DIP switch (S101/SS board (J-9)) is ON.)	—	—
	Err-72	—	Error that occurs when the video input signal drops out during recording (This code appears when "InP-OF" has been set in data setting mode.)	—	—
	Err-73	—	Error caused by an EMG.STOP command from the bidirectional remote controller SVRM-960	—	—

*5; When power is turned on with cassette inserted, if Err-32 is displayed, Err-20 (sub error code 03) will be displayed in a while.

	Error code	Sub error code	Error Contents	Error detecting method	Possible failure
Communication error	Err-90	Unable to display	There was a failure in communication from SS board to KY board; the error was displayed. (*4, *6)	The KY board microcomputer judged the data sent from system microcomputer as faulty, and then that was continued for a specific time.	· Break or poor connection of harness (*7) · System microcomputer 8 MHz clock failure · Faulty enable circuit of serial interface · Faulty system microcomputer

*4; After this error is displayed, if the communication failure is avoided, the error display will be released without turning off the power.

*6; If a failure is present in the system microcomputer, the protective action might not be executed. In this case, turn off the power of VTR to stop the operation.

*7; Even when the LED display on the front panel is faulty, if control of cassette and tape run is permitted by button operation or with the remote control, break of the harness connected to pin 1 of CN152 is the most probable fault.

2. Self diagnosis of ky board

An automatic check of communications in the KY board takes place.

• Operation method

(1) Test of 7-segment LED and mode LED

• Mode setting

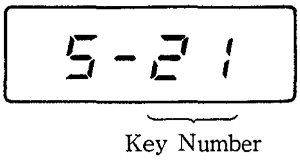
1. Short TP103 and TP104/KY board (D-3, E-2) with a shorting clip.
2. Turn the power switch ON.

The LED test will start automatically, and the test patterns will appear successively on the display (Table 1).

(2) Operation button and mode select switch test

If an operation button is pressed or the mode select switch is operated after the completion of the LED test, the corresponding key No. (Table 2) will be displayed in real time.

[If two operation buttons are pressed simultaneously, the button that has the lower key number will be displayed. Likewise, if the mode select switches (two) are operated simultaneously, the switch that has the lower key number will be displayed.]



LED test pattern Table 1.

7-segment LED	Mode LED	Display time
“888888”	ALL LEDs go out	2 sec.
“ 8”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“8 ”	ALL LEDs go out	0.5 sec.
“ 8”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“ 8 ”	ALL LEDs go out	0.5 sec.
“8 ”	ALL LEDs go out	0.5 sec.
“000000”	ALL LEDs go out	0.5 sec.
“111111”	ALL LEDs go out	0.5 sec.

7-segment LED	Mode LED	Display time
“222222”	ALL LEDs go out	1 sec.
“333333”	ALL LEDs go out	1 sec.
“444444”	ALL LEDs go out	1 sec.
“555555”	ALL LEDs go out	1 sec.
“666666”	ALL LEDs go out	1 sec.
“777777”	ALL LEDs go out	1 sec.
“888888”	ALL LEDs go out	1 sec.
“999999”	ALL LEDs go out	1 sec.
“AAAAAA”	ALL LEDs go out	1 sec.
“bbbbbb”	ALL LEDs go out	1 sec.
“CCCCCC”	ALL LEDs go out	1 sec.
“dddddd”	ALL LEDs go out	1 sec.
“EEEEEE”	ALL LEDs go out	1 sec.
“FFFFFF”	ALL LEDs go out	1 sec.
“ ”	ALL LEDs light	4 sec.
“------”	ALL LEDs go out	Until a key is pressed

Key number Table 2.

Operation button	Key No.	Mode select switch	Key No.
ITEM	11	REMOTO (AUDIO SELECT)	21
DATA	12	HiFi (AUDIO SELECT)	22
SHIFT	13	DATA SET	23
RESET	14	COUNTER (CTL)	24
EJECT	15	When the switch is in the HOUR METER or NORMAL position.	26

SECTION 3
PERIODIC MAINTENANCE AND INSPECTION

It is recommended that you carry out the following periodic checks and maintenance in order to obtain good performance and ensure a long life for the unit and tape. Use the hourmeter value displayed on the front panel as a guide for determining the check timing.

3-1. MAINTENANCE AFTER REPAIRS

Carry out the following maintenance after repair without regard to the operational hours of the unit.

(1) Cleaning Rotary Upper Drum
Press a cleaning cloth moistened with cleaning fluid lightly against Rotary Upper Drum and turn the Rotary Upper Drum slowly counterclockwise by means of a hand.

Note : Never turn the Drum by means of the unit is switched. Never turn it clockwise by means of a hand. If cleaning head chip, never move the cleaning cloth in vertical direction. You damage the head chip.

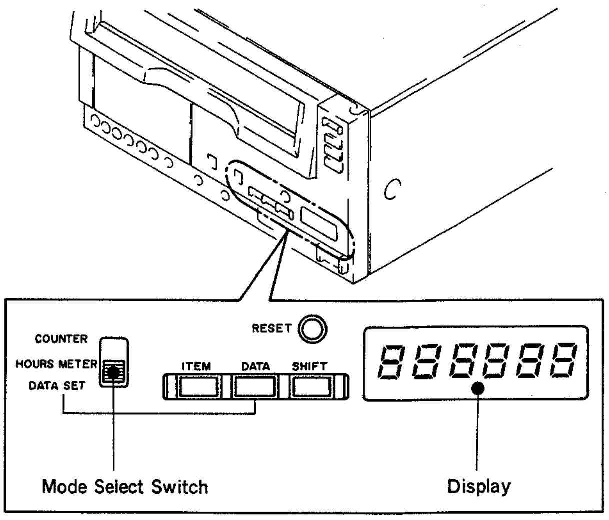
(2) Cleaning the tape run system (See drawing next page.)
Clean the tape run system (guides TG-1 to TG-9, RVS guide, capstan shaft, pinch roller, audio head, and FE head) with a cleaning piece moistened with cleaning fluid.

(3) Cleaning the drive system
Clean the surface of the reel table with a cleaning piece moistened with cleaning fluid.

3-2. HOURS METER

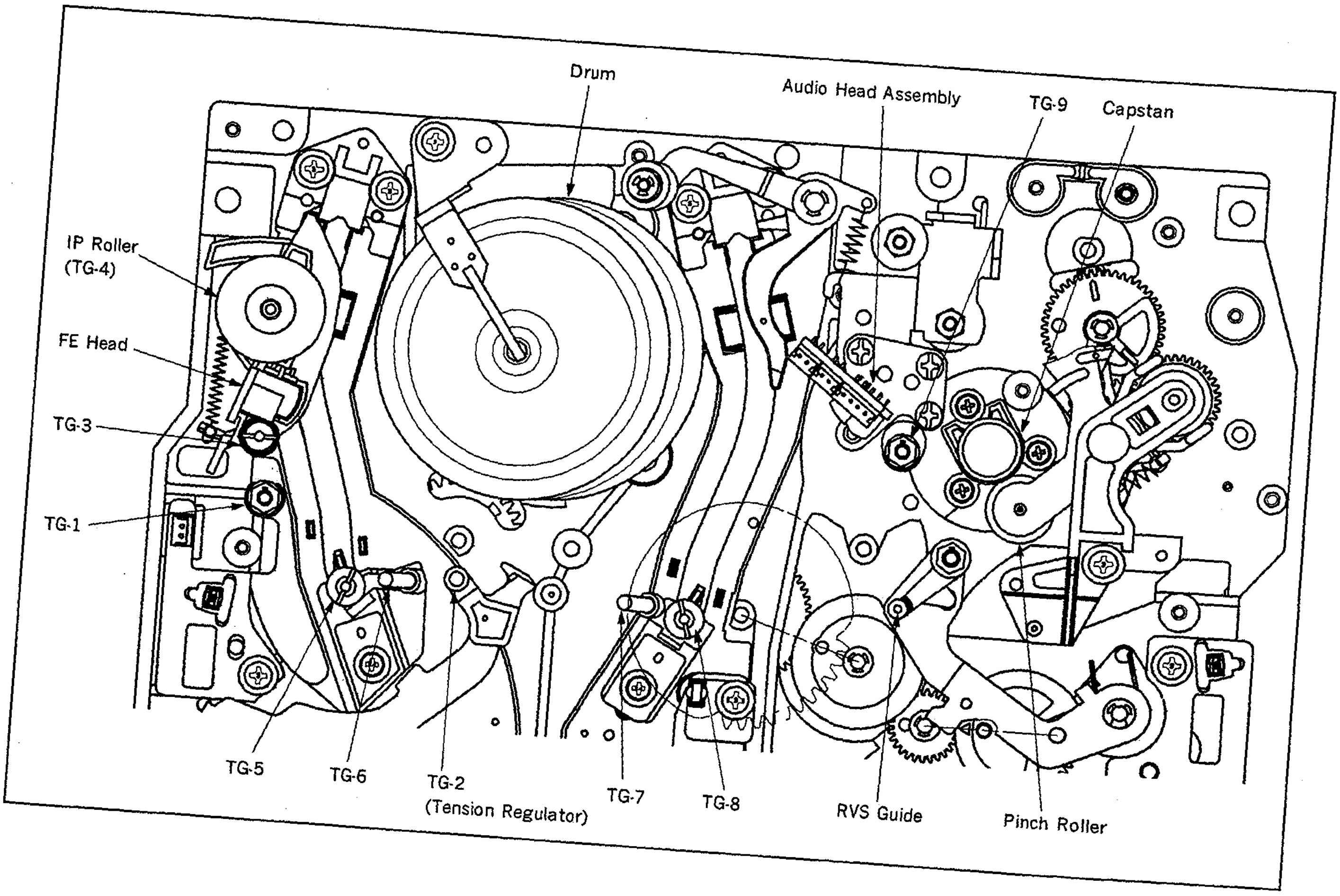
The front panel display of this VTR can display the period that the upper drum has been rotating.

- Method of displaying hourmeter
  When the mode select switch on the front panel is set to "HOURS METER", the period during which the upper drum has been rotating will appear on the display.



3-3. PERIODIC CHECK

Carry out periodic checks and maintenance according to operational hours of the unit.


Drum
Audio Head Assembly
TG-9
Capstan
IP Roller
(TG-4)
FE Head
TG-3
TG-1
TG-5
TG-6
TG-2
(Tension Regulator)
TG-7
TG-8
RVS Guide
Pinch Roller

Periodic Check Table

○: Cleaning ◆: Replacement ◇: Checking □: Greasing

Item			Hours of use (H): Hour of Drum Rotation										Reference Section
	Part Name	Part No.	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Tape Run System	Tape Run surface	—	○	○	○	○	○	○	○	○	○	○	—
	(Note 1) Pinch Roller Block Ass'y	A-6750-279-D	○	○	○	◆/□	○	○	○	◆/□	○	○	4-12
	Audio Head Ass'y	A-6736-092-A	○	○	○	○	○	○	○	◆	○	○	4-10
	Shuttle (Right) Block Ass'y	A-6746-063-D								◆			4-23
	Shuttle (Left) Block Ass'y	A-6746-062-C								◆			4-25
	Shaft Ground Ass'y	X-3165-584-1								◆			4-4
	FE Head	1-543-695-11	○	○	○	○	○	○	○	◆	○	○	4-8
	Capstan Motor (U-26A)	8-835-350-02	○	○	○	○	○	○	○	◆	○	○	4-29
	Upper Drum Ass'y (DZR-65-R)	8-848-617-01	○	◆	○	◆	○	◆	○		○	◆	4-4
	Drum Ass'y (DZH-65A-R)	8-848-615-11	○	○	○	○	○	○	○	◆	○	○	4-5
Drive System	Brake Arm (S) Ass'y	X-3165-330-3								◆			4-17
	Brake Arm (T) Ass'y	X-3165-331-2								◆			4-17
	Reel Table Ass'y	X-3165-345-1				○				○			4-16
	Cleaning Roller Ass'y	X-3743-515-4				◆				◆			4-3
	Reel Moter (SRV-0202A)	8-835-501-01								◆			4-18
	(Note 1) Loading Gear (Right) Ass'y	A-6750-281-A				□				□			4-21
	(Note 1) Worm Gear (Cam Motor Ass'y)	3-733-395-01				□				□			3-5
	(Note 1) Worm Gear (Cassette Compartment)	3-736-100-01				□				□			3-5
	(Note 1) Shuttle Slide Surface	—				□				□			3-5
Check Performance	Abnormal-noise	—	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	—
	S side Tape Tension Measurement	—		◇		◇		◇		◇		◇	5-2

Note 1: Grease the VTR according to sub-section 3-5.

Note 2: The period shown in the table is not a guarantee value. The parts replacement period differs depending on the environment in which the VTR is used, so take the operating environment into consideration when drawing up a maintenance and check plan.

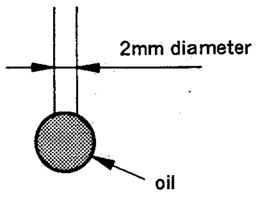
Note 3: Be sure to clean the tape run surface after repairing it.

3-4. OILING

Oiling is described in 「SECTION 4. REPLACEMENT OF MECHANICAL PARTS」 for the applicable parts.

(1) Sony oil

- Be sure to use Sony oil. (If another brand of oil is used, the viscosity will be different, leading to trouble.)
  Sony oil: Sony part No. 7-661-018-18
- Be sure that the Sony oil used to lubricate the bearings is free of dirt and other foreign matter. (If the oil contains dirt, the bearings are liable to seize and also wear will be accelerated.)
- One drop of oil means a drop on the end of a rod of 2 mm diameter (see figure).



3-5. GREASING

(1) Periodically grease the following parts.
- The face that slides against the cam of the pinch roller block ass'y and inside of sleeve (Fig. 1)
- The face that slides against the loading gear (right) ass'y (Fig. 2)
- The face that slides against the shuttle (left)/(right) ass'y (Fig. 3)
- Cam motor ass'y worm gear (Fig. 4)
- Cassette compartment worm gear (Fig. 5)

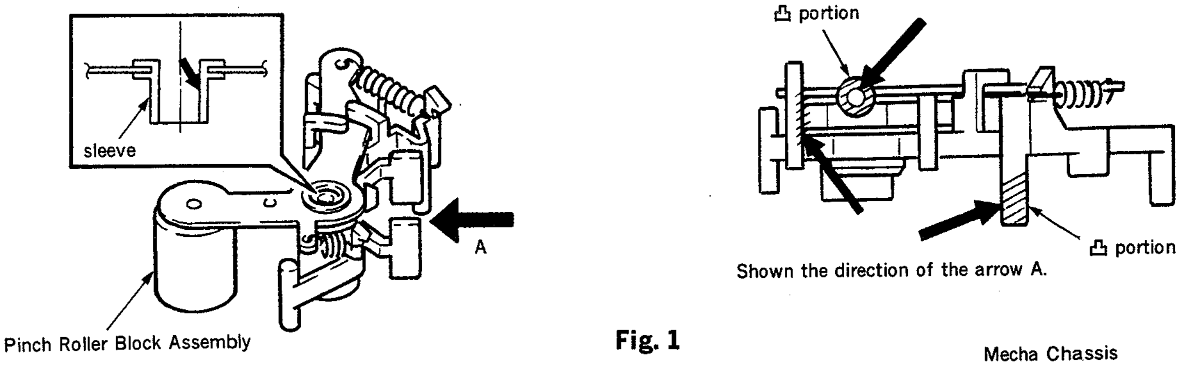
(2) Greasing
- Be sure to use the specified grease.

MOLYKOTE grease EM-30LG (Color: green): Sony part No. J-6090-014-A

or

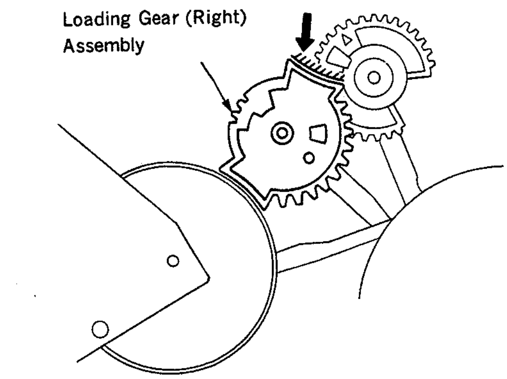
MOLYKOTE grease EM-30L (Color: Colorless): DOW CORNING Corp.

Apply a small quantity of grease to the areas marked in the figure (shaded areas and other areas indicated by the arrows).



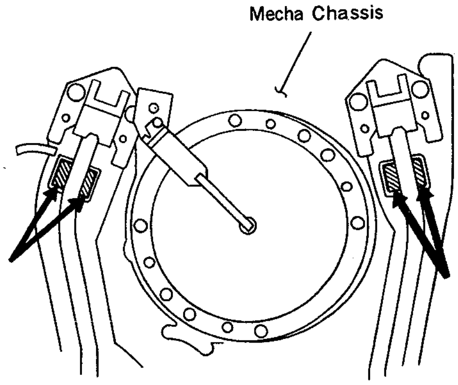
sleeve
A
Pinch Roller Block Assembly
凸 portion
凸 portion
Shown the direction of the arrow A.

Fig. 1



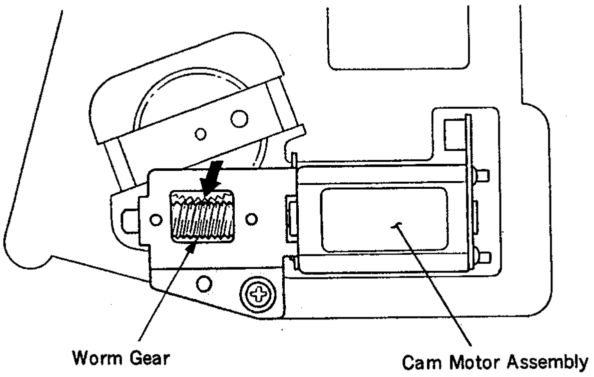
Loading Gear (Right) Assembly

Fig. 2



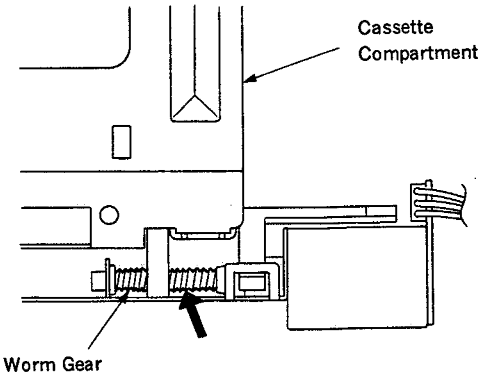
Mecha Chassis

Fig. 3



Worm Gear
Cam Motor Assembly

Fig. 4



Cassette Compartment
Worm Gear

Fig. 5

SECTION 4
REPLACEMENT OF MECHANICAL PARTS

- Refer to Section 2 for details of removing the externals and the printed circuit boards.
- Re-install the various parts in the opposite sequence to removal, while referring to "Precautions for Installation".

4-1. PREPARATIONS FOR REPLACING PARTS

- Do not load or thread a cassette when the VTR is inverted.

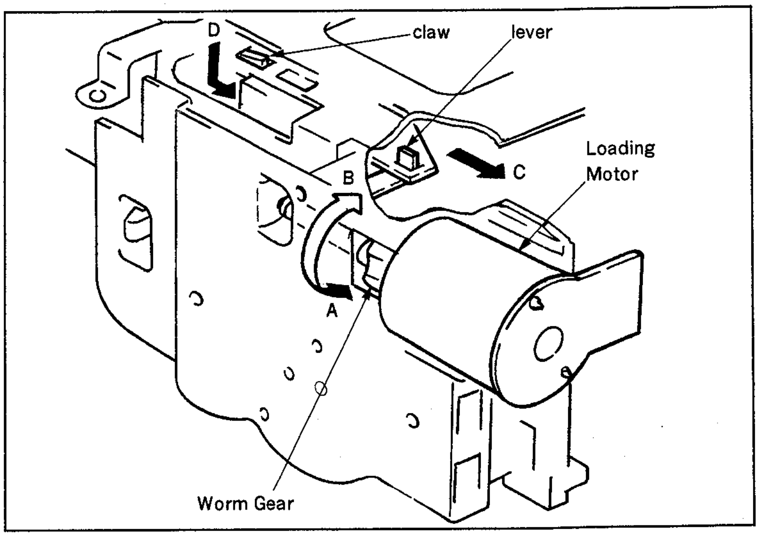
4-1-1. Method of loading and unloading the cassette compartment when the power is OFF

[Loading]

- Push the lever in the direction of arrow C and release the claw (direction of arrow D), then rotate the worm gear in the direction of arrow B with the fingers until loading is completed.
  (When a cassette tape is loaded in the cassette compartment, the claw will automatically release.)

[Unloading]

- Rotate the worm gear in the direction of arrow A with the fingers until unloading is completed.


D
claw
lever
Loading Motor
B
C
A
Worm Gear

4-1-2. Method of threading and unthreading when the power is OFF

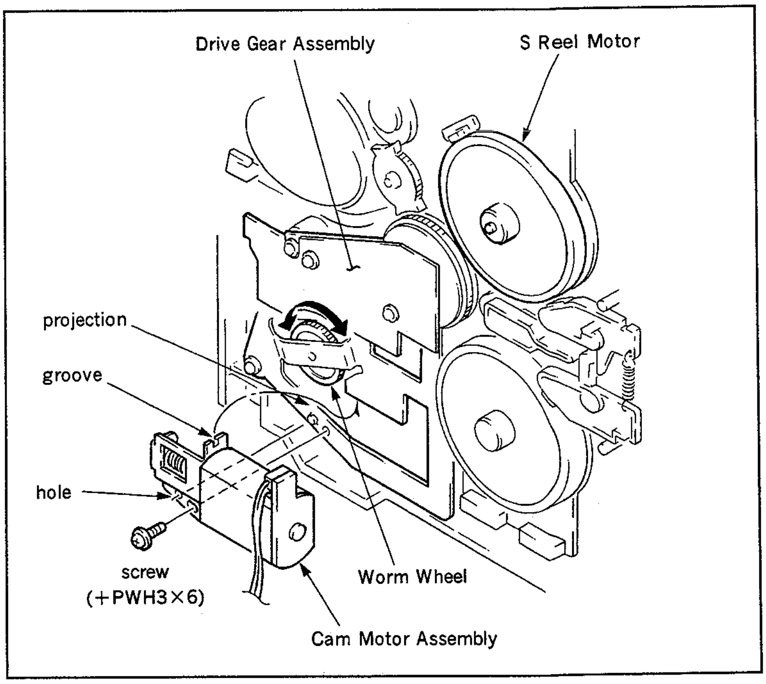
(1) Remove the screws, then remove the cam motor ass'y from the drive gear ass'y.

[Threading]

- Rotate the worm wheel with the fingers in the direction of arrow A until threading is completed.

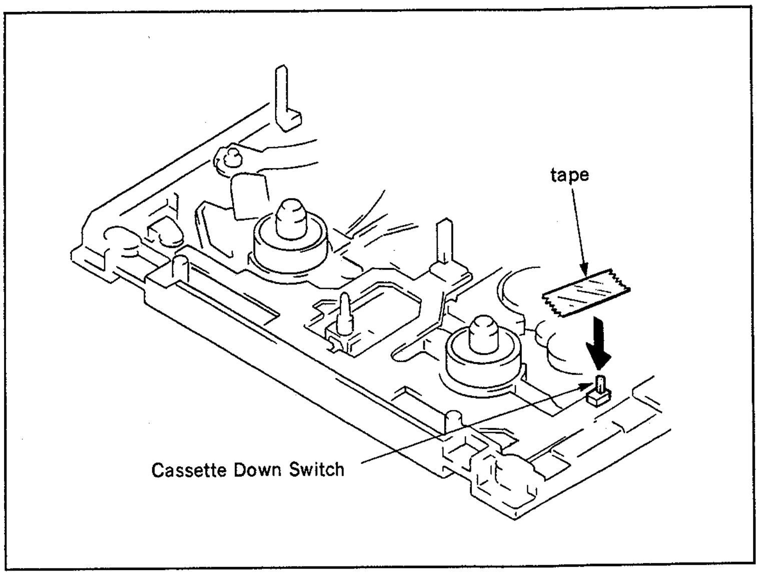
[Unthreading]

- Rotate the worm wheel with the fingers in the direction of arrow B until unthreading is completed.


Drive Gear Assembly
S Reel Motor
projection
groove
hole
screw
(+PWH3×6)
Worm Wheel
Cam Motor Assembly

4-1-3. Method of operating the VTR without a cassette compartment or cassette tape

(1) Remove the cassette compartment according to sub-section 2-2.
(2) Turn ON No. 8 switch of DIP switch S101/SS board (J-9). (This is to neutralize the tape top/end sensor function)
(3) Push down the CASSETTE DOWN switch with tape, etc.
(4) Turn the POWER switch ON.



In this condition, the VTR can be operated from the remote controller (RM-V200, RM-V100, etc.)
[When changing the mode from PLAY to FF or REW, go via the STOP mode.]

Note: Be sure to turn No. 8 switch OFF after completion of operation.

[Operating the VTR with the cassette compartment removed and a cassette tape loaded]

- Be sure to turn OFF No. 8 switch of DIP switch S101.
  (If the DIP switch is turned ON, the tape will not stop at the tape top/end, resulting in possible damage to the head tip and deformation of the tape guide.)

4-1-4. How to get the best engaging phase of gears when replacing.

A hole and/or a mark is added on each gear in this mechanism deck so that the engaging phases of the gears are easy to get when assembling. When replacing gear, install it as shown below, also refer the figure 1 and 2. (The replacement should be performed on the STOP mode.)

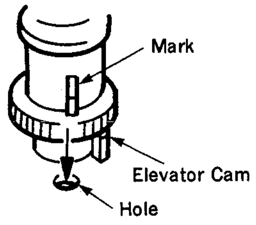
①	 Mark Elevator Cam Hole Match the mark of the elevator cam and the hole of the chassis. (Ref. 4-13)
②	Match the holes of the pressure cam gear and the chassis. (Ref. 4-13)
③	Match the holes of RVS cam gear and the chassis. (Ref. 4-14)
④	Match the holes of FR drive gear and the mode gear. (Ref. 4-15)

Figure of mechanism: STOP mode without the cassette compartment.

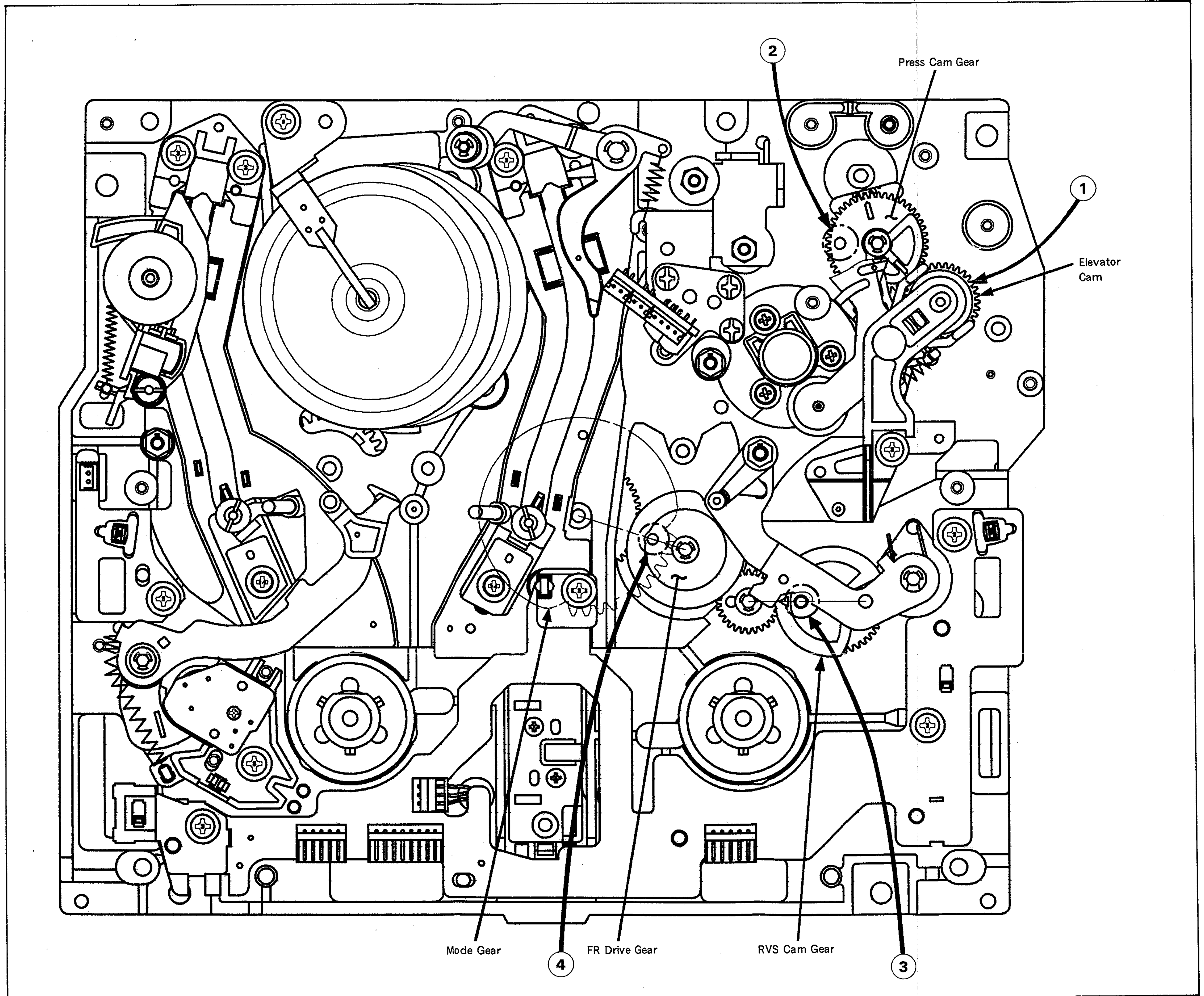

②
Press Cam Gear
①
Elevator Cam
Mode Gear
④
FR Drive Gear
RVS Cam Gear
③

Fig. 1 Top View

Figure of mechanism : STOP mode

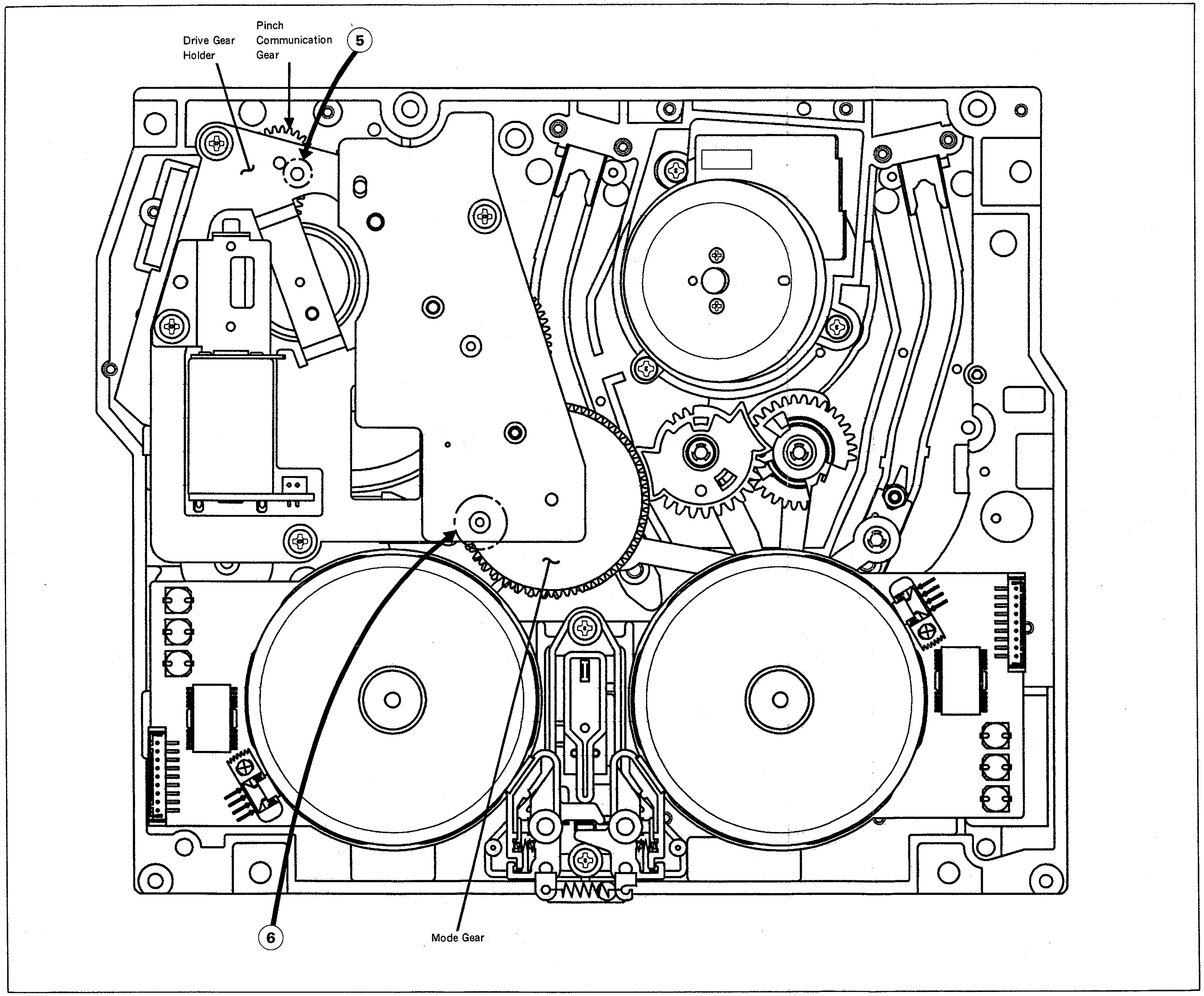

Pinch Communication Gear
Drive Gear Holder
5
6
Mode Gear

Fig. 2 Bottom View

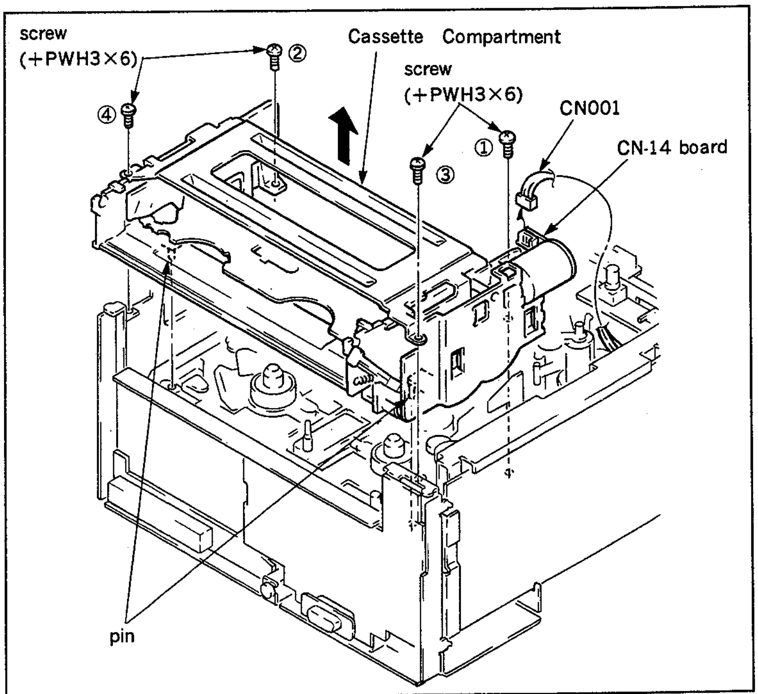
⑤	Match the holes of the pinch communication gear and the drive gear holder. (Ref. 4-19)
⑥	Match the holes of the mode gear and the drive gear holder. (Ref. 4-19)

4-2. CASSETTE COMPARTMENT (FL ASS'Y) REPLACEMENT

(1) Disconnect connector CN001 from the CM-14 board.
(2) Remove the four screws, and remove the cassette compartment (FL ass'y) in the direction of the arrow.

Note on installation

①Align the two pins of the cassette compartment with the holes in the base plate.
②Tighten the screws in the sequence (1) to (4).


screw
(+PWH3×6)
②
④
Cassette Compartment
screw
(+PWH3×6)
CN001
①
③
CN-14 board
pin

4-2-1. Prevention lever replacement

(1) Remove the spring.
(2) Remove the claw, and move the prevention lever in the direction of arrow A.
(3) Remove the prevention lever in the direction of arrow B.

Note on installation

①The shaft of the prevention lever must enter the groove in the drive arm (left). (Fig. 2)

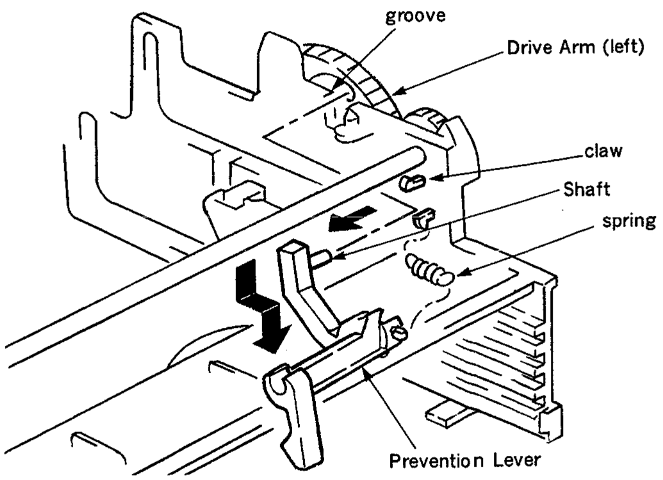

groove
Drive Arm (left)
claw
Shaft
spring
Prevention Lever

Fig. 1

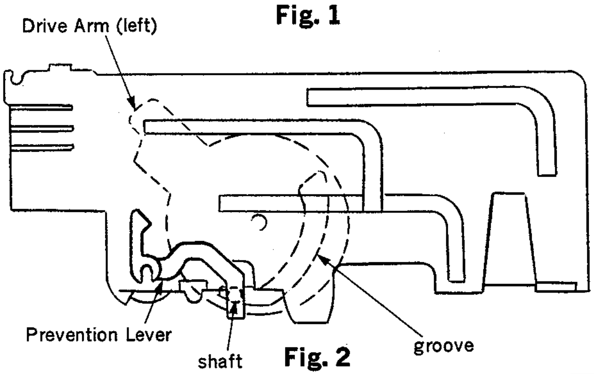

Drive Arm (left)
Prevention Lever
shaft
groove

Fig. 2

4-2-2. Loading motor, worm gear (FL), worm wheel (FL) and worm retainer replacement

(1) Remove the four claws, then remove the gear cover ass'y. (Fig. 1)
(2) Remove the stop washer 3, then pull out the worm wheel (FL). (Fig. 2)
(3) Remove the two screws, then remove the loading motor. (Fig. 2)
(4) Remove the worm gear (FL) and the worm retainer. (Fig. 2)

Note on installation

①To install the gear cover ass'y, obtain a shaft of 2 mm diameter and length of at least 30 mm. Pass the shaft through the holes in the gear cover ass'y, worm wheel (FL), drive arm (right) ass'y and right side plate, and engage the gear cover ass'y with the claw.

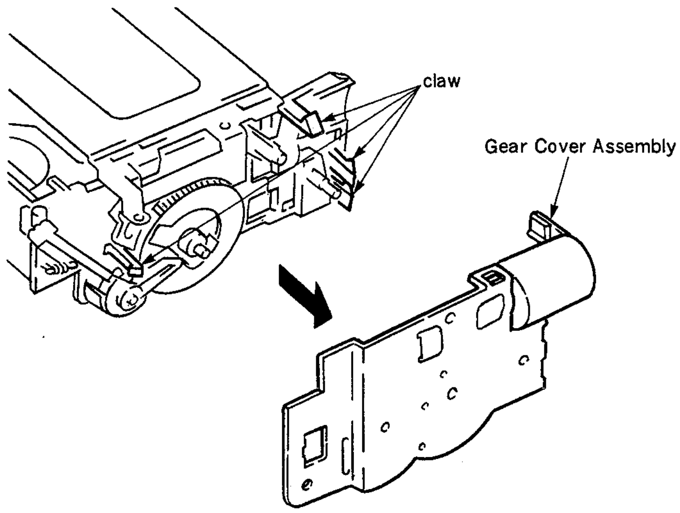

claw
Gear Cover Assembly

Fig. 1

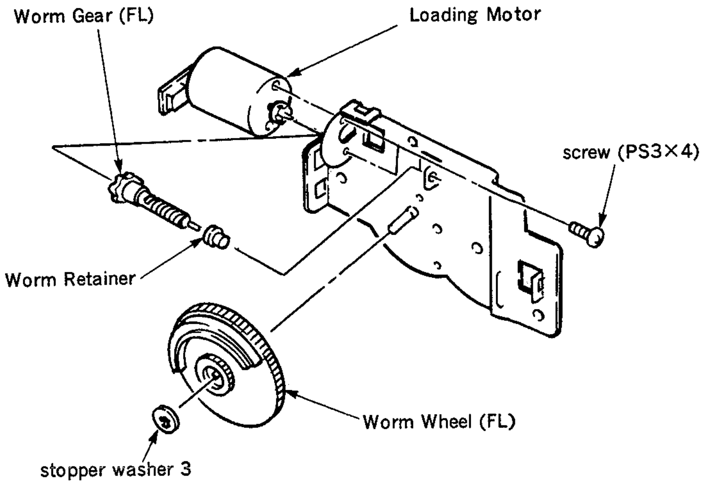

Worm Gear (FL)
Loading Motor
screw (PS3X4)
Worm Retainer
Worm Wheel (FL)
stopper washer 3

Fig. 2

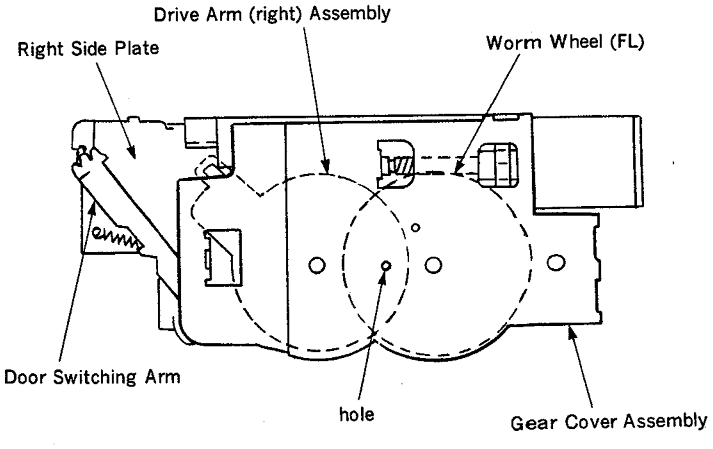
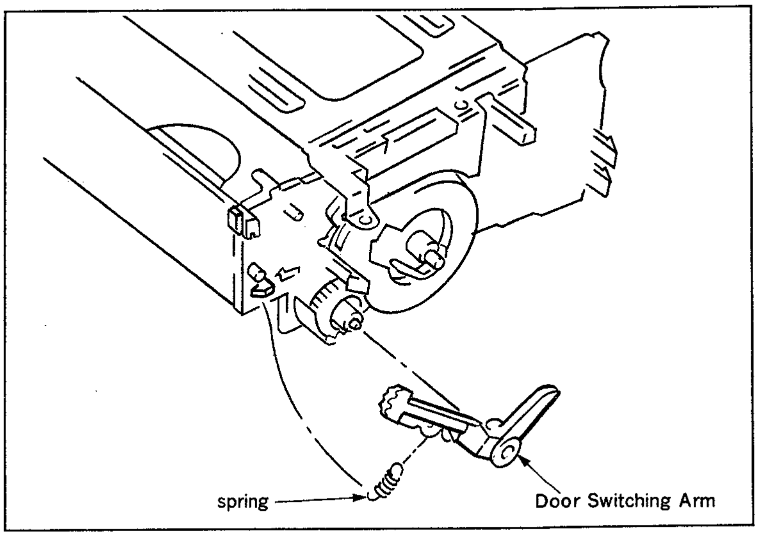

Drive Arm (right) Assembly
Right Side Plate
Worm Wheel (FL)
Door Switching Arm
hole
Gear Cover Assembly

Fig. 3

4-2-3. Door switching arm replacement

(1) Remove the spring.
(2) Pull out the door switching arm.


spring
Door Switching Arm

4-3. MC ROLLER ASS'Y REPLACEMENT

(1) Remove the spring from the notch in the ACE head base.
(2) Remove the stop washer (4 mm dia.), then remove the MC roller ass'y. (Fig. 1)

Note on installation

①Ensure that the opening of the hook is uppermost. (Fig. 2)
②Take care not to scratch the drum.
③Install the MC roller ass'y in such a way that the extremity enters the part of the shuttle holder indicated by the arrow in Fig. 2.

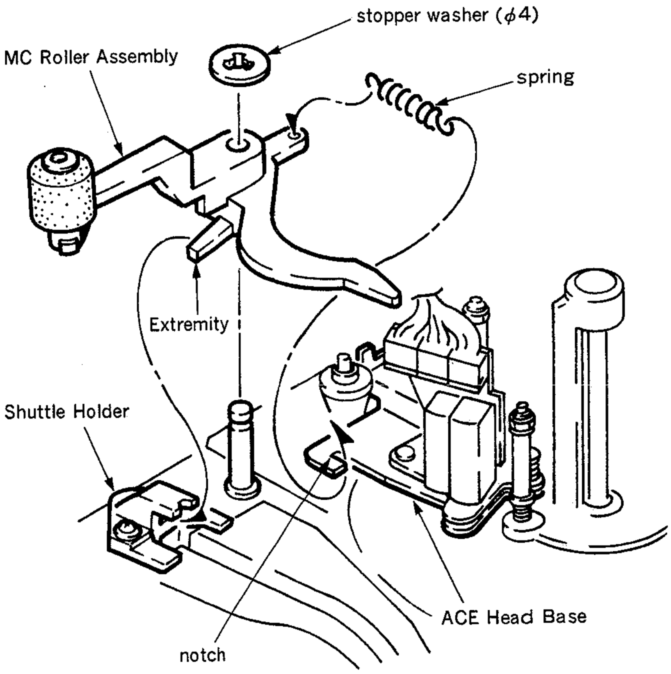

stopper washer (φ4)
MC Roller Assembly
spring
Extremity
Shuttle Holder
ACE Head Base
notch

Fig. 1

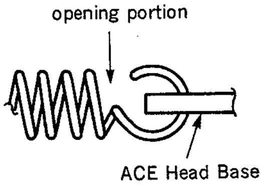

opening portion
ACE Head Base

Fig. 2

4-4. UPPER DRUM ASS'Y REPLACEMENT

Tools:
Alignment tape (KRV-4821PSA and KRV-23PS)
X value adjustment tool (J-6380-710-A)
Box screwdriver (width 5.5 mm)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Oscilloscope
Connecting cable
VHS cassette tape (T-160 and T-120)

(1) Remove the screw, then remove the shaft ground ass'y.
(2) Unsolder the eight points on the upper drum board shown in Fig. 1.
(3) Remove the two screws, then remove the upper drum ass'y.

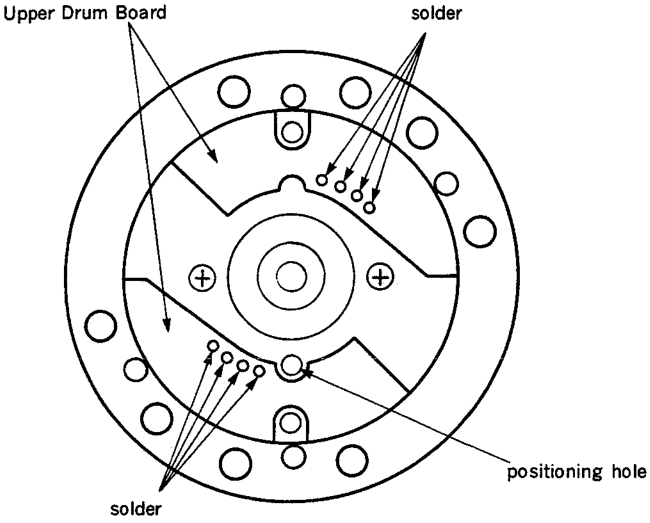
Note on installation

①Do not touch the head tip and the contact of the shaft ground ass'y with the fingers or a tool.
②Clean the surface of the drum shaft that touches the contact of the shaft ground ass'y, using cleaning fluid.

Note: Do not smear cleaning fluid too much to drum block.
(Cleaning fluid soaks into inside of drum block and rotary trans may be damaged.)

③Install the contact of the shaft ground ass'y at roughly the center of the drum shaft.
④Align the locating hole of the upper drum ass'y with this of the lower drum ass'y, then install the upper drum ass'y.
⑤The tightening torque for installing the upper drum ass'y must be 590×10^{-3} N•m (6 kg•cm).

[**Adjustment after replacing the upper drum ass'y**]
- See next page.


Upper Drum Board
solder
solder
positioning hole

Upper Drum Assembly (Top View)

Fig. 1

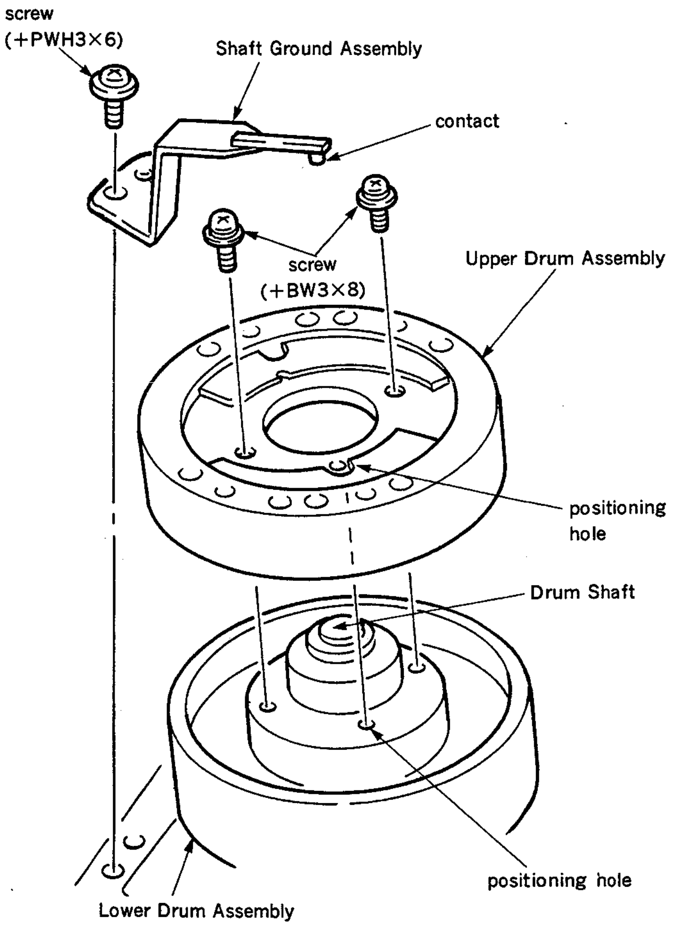
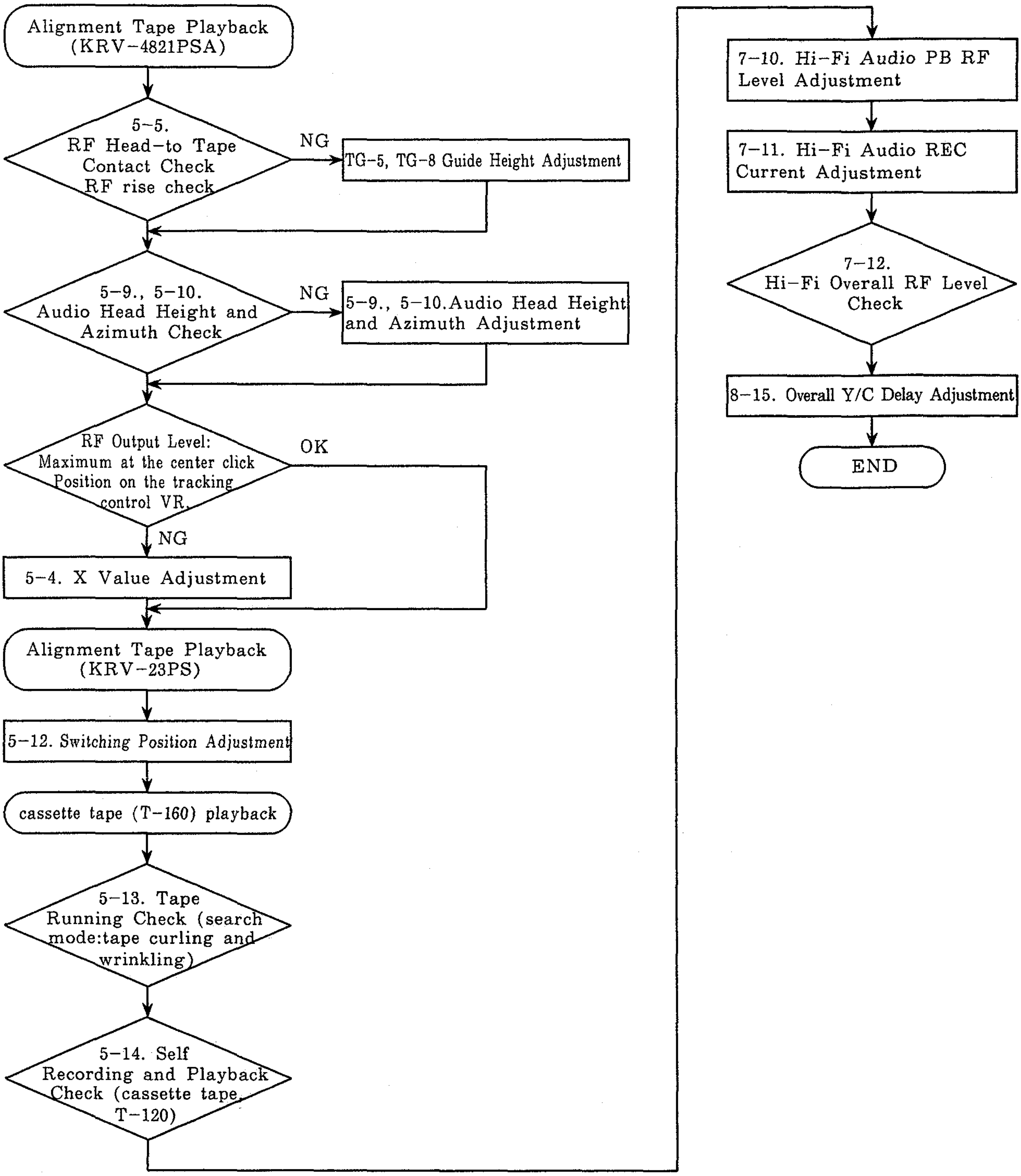

screw
(+PWH3×6)
Shaft Ground Assembly
contact
screw
(+BW3×8)
Upper Drum Assembly
positioning hole
Drum Shaft
positioning hole
Lower Drum Assembly

Fig. 2

[Adjustment after replacing the upper drum ass'y]

- Refer to Section 5, perform the Tape Path Alignment.


Alignment Tape Playback (KRV-4821PSA)
5-5. RF Head-to Tape Contact Check RF rise check
NG
TG-5, TG-8 Guide Height Adjustment
5-9., 5-10. Audio Head Height and Azimuth Check
NG
5-9., 5-10.Audio Head Height and Azimuth Adjustment
RF Output Level: Maximum at the center click Position on the tracking control VR.
OK
NG
5-4. X Value Adjustment
Alignment Tape Playback (KRV-23PS)
5-12. Switching Position Adjustment
cassette tape (T-160) playback
5-13. Tape Running Check (search mode:tape curling and wrinkling)
5-14. Self Recording and Playback Check (cassette tape, T-120)
7-10. Hi-Fi Audio PB RF Level Adjustment
7-11. Hi-Fi Audio REC Current Adjustment
7-12. Hi-Fi Overall RF Level Check
8-15. Overall Y/C Delay Adjustment
END

4-5. DRUM ASS'Y REPLACEMENT

Tools :

Alignment tape (KRV-4821PSA and KRV-23PS)
X value adjustment tool (J-6380-710-A)
Box screwdriver (width 5.5 mm)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Oscilloscope
Connecting cable
VHS cassette tape (T-160 and T-120)

(1) Remove the drum harness from the RP board. (Fig. 1)
(2) Remove the screw, then remove the shaft ground ass'y. (Fig. 2)
(3) Disconnect connector CN604 (Fig. 2) from the drum ass'y.
(4) Remove the three screws, then remove the drum ass'y. (Fig. 2)

Note on installation

①Do not touch the head tip and the contact of the shaft ground ass'y with the fingers or a tool.

②Clean the following parts with cleaning fluid.

- The surface of the drum shaft that touches the ground contact
- The mounting faces of the drum ass'y and the chassis.
- The surface of the drum ass'y over which the tape travels

Note: Do not smear cleaning fluid too much to drum block.
(Cleaning fluid soaks into inside of drum block and rotary trans may be damaged.)

③Align the holes (two) in the drum ass'y with the pins (two) on the chassis, then install the drum ass'y.

④The tightening torque of the mounting screws of the drum ass'y must be $392\times10^{-3}\sim490\times10^{-3}$ N•m (4~5 kg•cm).

⑤Connect the drum harness to the RP board while being careful of the direction of the terminals.

[Adjustment after Replacing the Drum Ass'y]
See sub-section 4-4. [Same as the method of performing adjustment after replacing the upper drum ass'y]

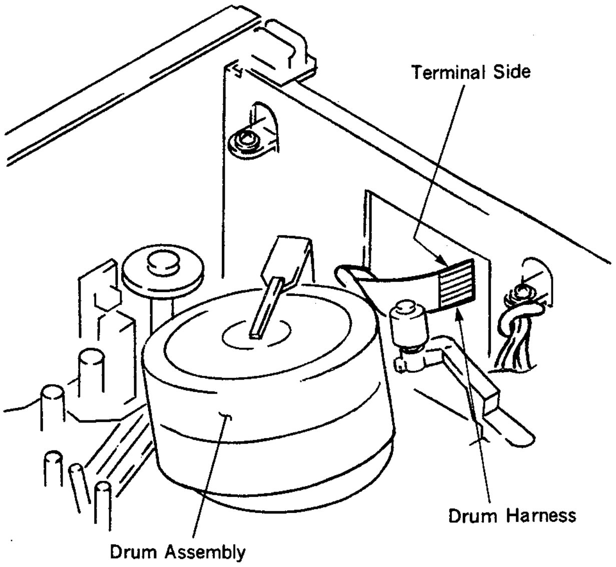


Fig. 1

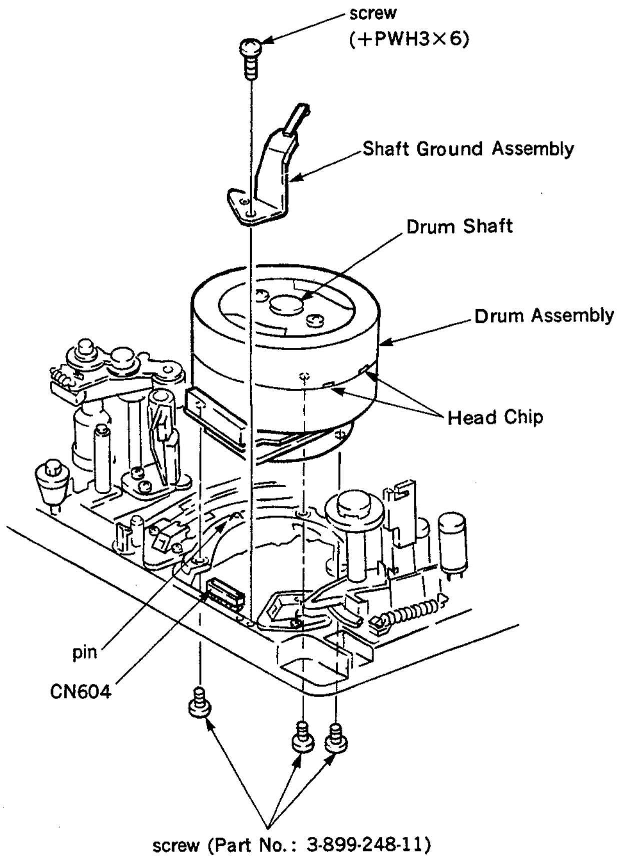


Fig. 2

4-6. TG-1 GUIDE REPLACEMENT

Tools :
Reference plate (J-6380-080-A)
Master block (J-6380-700-A)
Box screwdriver (5.5 mm)
Remote controller (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Turn the nyron nut and remove it.
(3) Remove the upper flange and TG-1 guide from shaft. (Fig. 1)

[Installation and height adjustment]

(1) Press the PLAY button on the remote controller for the threading completion mode. (See sub-section 4-1-3.)
(2) Clean the mounting face of the reference plate and the four mounting points on the chassis with cleaning fluid.
(3) Install the reference plate on the chassis. (Fig. 3) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
(5) Set the master block with the stamped L1 face upward, then place it against the TG-1 guide from the direction shown in the drawing.
Turn the nyron nut to meet the specification. (Fig. 2 and 3)
(6) Perform tape run alignment of section 5.

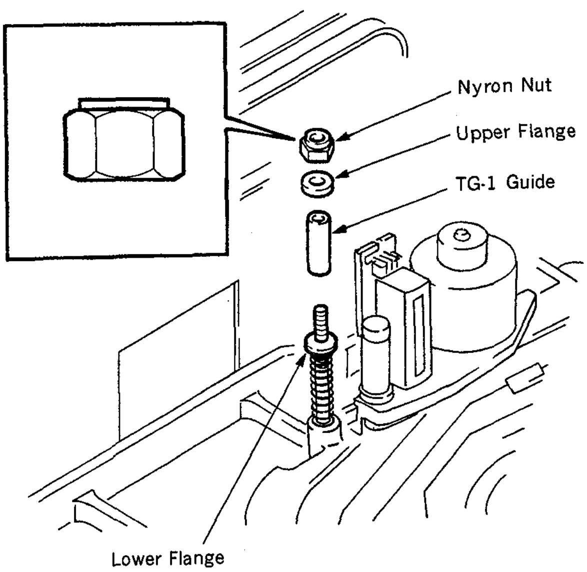

Nyron Nut
Upper Flange
TG-1 Guide
Lower Flange

Fig. 1

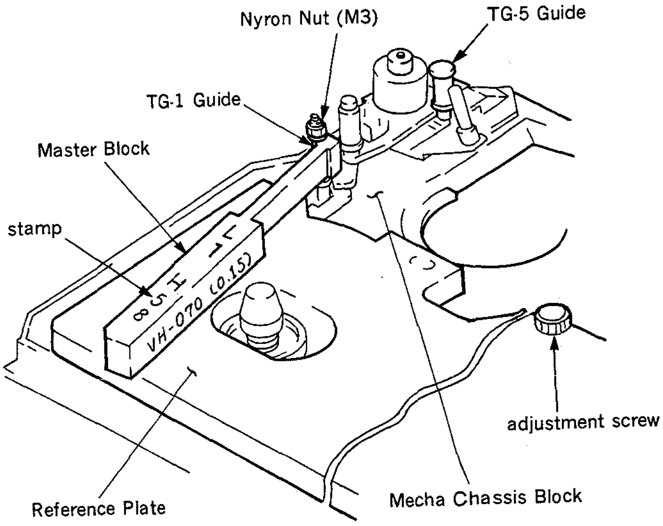
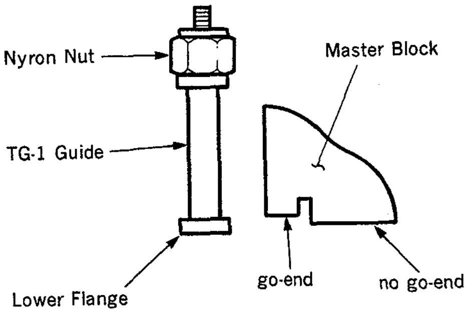

Nyron Nut (M3)
TG-5 Guide
TG-1 Guide
Master Block
stamp
VH-070 (0.15)
adjustment screw
Reference Plate
Mecha Chassis Block

Fig. 2


Nyron Nut
TG-1 Guide
Lower Flange
Master Block
go-end
no go-end

Spec. :
The height of the lower flange must pass at the go-end of the master block and stop at the no go-end.

Fig. 3

4-7. TENSION REGULATOR ASS'Y (TG-2 GUIDE) AND STD ASS'Y REPLACEMENT

Tools :
Oscilloscope
Tentelometer (T2-H7-UMC)
Digital voltmeter
VHS cassette tape (T-120)
Sony oil (7-661-018-18)
Remote controller (RM-V100 or RM-V200)
Locking compound

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Disconnect connector CN657 from the HN board.
(3) Remove the spring from the STD ass'y.
(4) Remove stop washer 2.3 and also the screw.
(5) Remove the tension regulator ass'y and STD ass'y together.
(Take care not to lose the poly-washer.)

Note on installation

①Clean the shaft with cleaning fluid, and apply 1/2 a drop of Sony oil. (Fig. 1)
②Insert the slit arm of the tension regulator ass'y into the slit in the STD ass'y, then install the resulting ass'y on the shaft. (Fig. 1)
③Align the U groove and longitudinal hole of the STD ass'y with bosses **a** on the chassis (Fig. 1), then install the STD ass'y in such a way that the adjustment groove comes to a point mid-way between bosses **b**. (Fig. 2)

[**Adjustment after replacement**]

Mechanical adjustment of position of tension regulator ass'y

(1) Connect the oscilloscope as follows.
CH-1 (DC range) : TP301/SS board (C-9)
(2) Turn ON No. 8 switch of DIP switch S101/SS board (J-9). (Fig. 3)
(3) Keep the cassette down switch pressed down with tape, etc. (Fig. 3)
(4) Turn ON the POWER switch.
(5) Press the PLAY button of the remote controller for the threading completion mode (rotate the drum).

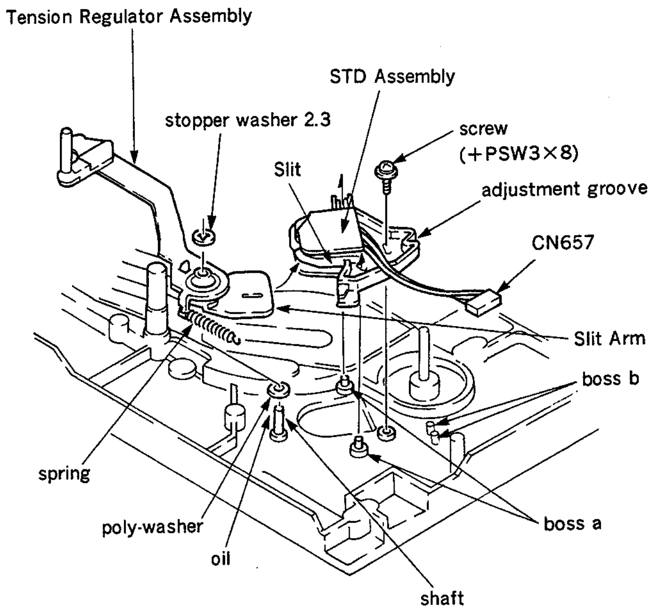

Tension Regulator Assembly
STD Assembly
stopper washer 2.3
screw
(+PSW3×8)
Slit
adjustment groove
CN657
Slit Arm
boss b
spring
poly-washer
oil
boss a
shaft

Fig. 1

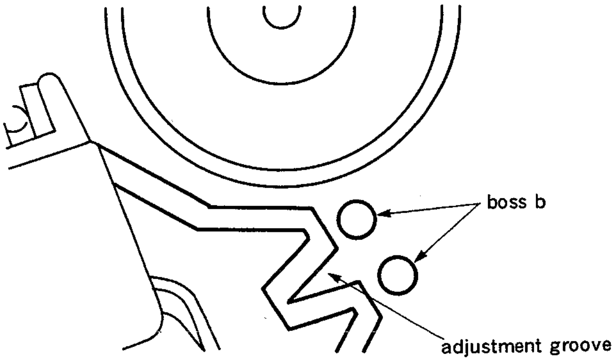

boss b
adjustment groove

Fig. 2

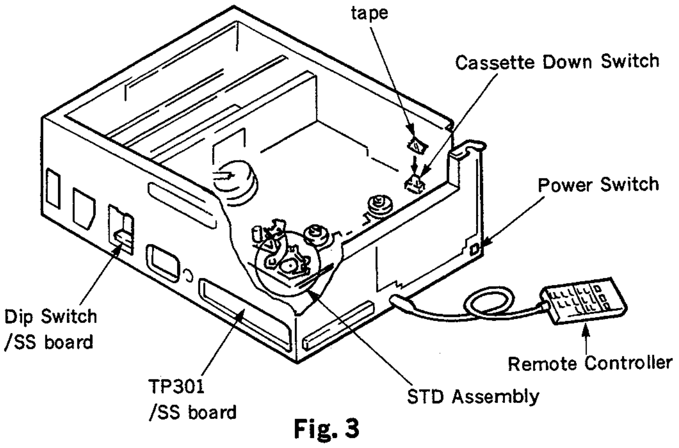

tape
Cassette Down Switch
Power Switch
Dip Switch
/SS board
Remote Controller
TP301
/SS board
STD Assembly

Fig. 3

(6) Loosen the screw of the STD ass'y by about 90°.

(7) Insert a screwdriver into the position shown in Fig. 4, then move the STD ass'y in the direction of arrows A and B, and set it to the position where the DC voltage of TP301 is minimum.

(8) Move the STD ass'y slightly in the direction of arrow C, and tighten the screw until the DC voltage of TP301 is within the specification range. (Fig. 4)

(9) Confirm that when the tension regulator ass'y is moved in the direction of the arrow D, the DC voltage of TP301 increases in direct proportion. (Fig. 5)

(10) Press the STOP button of the remote controller for the un-threading completion mode.

(11) Turn OFF No. 8 switch of the DIP switch.

(12) Smear the screw of the STD ass'y with locking compound. (Fig. 4)

Tape tension adjustment

(13) Perform tape tension adjustment according to sub-section 5-2.

Tape run adjustment

(14) Perform tape path alignment of section 5.

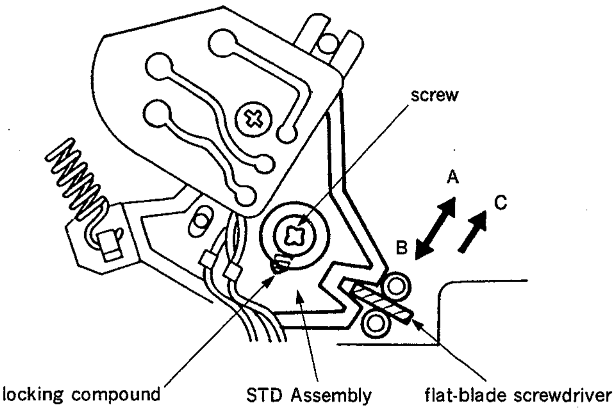
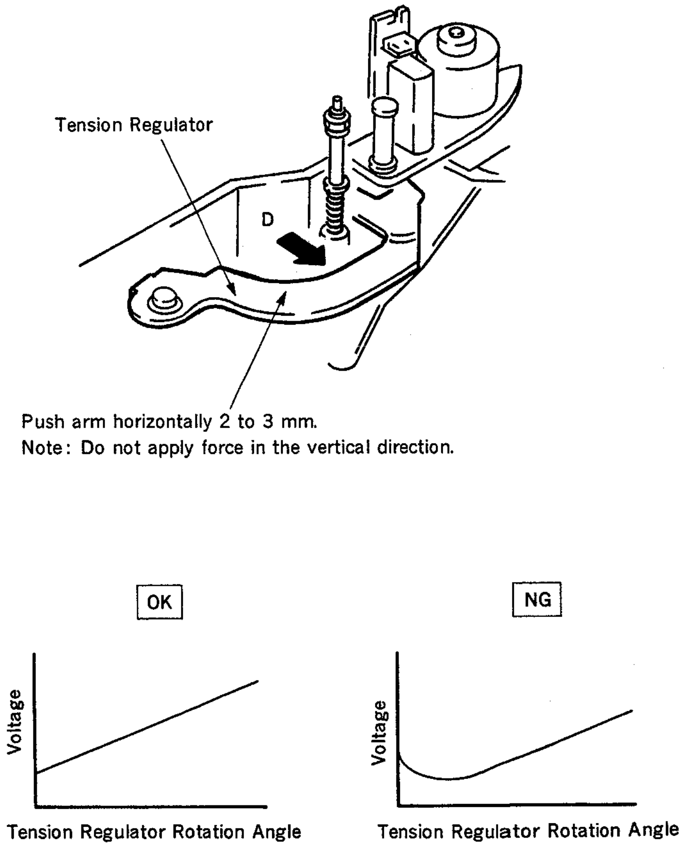

screw
A
C
B
locking compound
STD Assembly
flat-blade screwdriver

Fig. 4

Spec.:
DC voltage of TP301
min. to min.+0.2 V


Tension Regulator
D
OK
NG
Voltage
Tension Regulator Rotation Angle
Voltage
Tension Regulator Rotation Angle

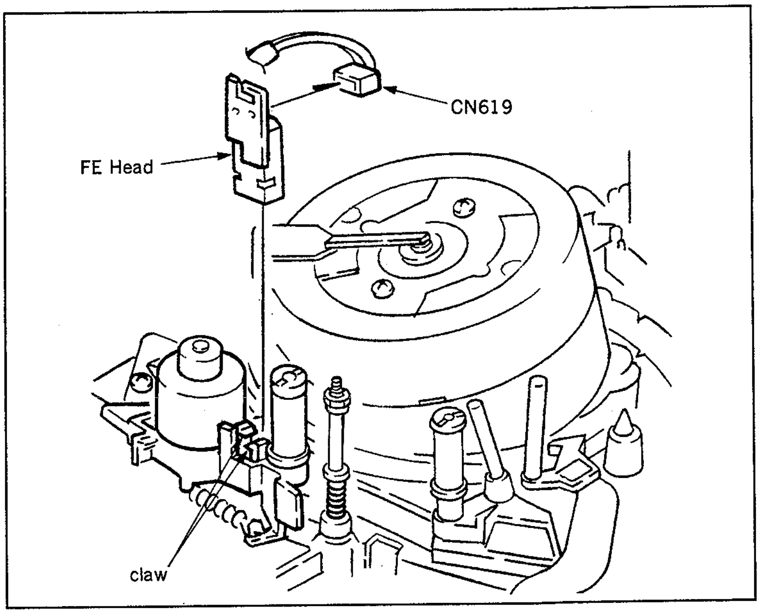
Push arm horizontally 2 to 3 mm.
Note: Do not apply force in the vertical direction.

Fig. 5

4-8. FE HEAD REPLACEMENT

(1) Disconnect connector from the head.

(2) Remove the two claws, then remove the FE head.


CN619
FE Head
claw

Note on installation

①Push in the FE head until the two claws lock into place.

4-9. STABILIZER ASS'Y (TG-4 GUIDE) AND TG-3 GUIDE REPLACEMENT

Tools :

Reference plate (J-6380-080-A)
Master block (J-6380-700-A)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Remote controller (RM-V100 or RM-V200)
Sony oil (7-661-018-18)

(1) Remove the cassette compartment according to sub-section 4-2.

(2) Remove the FE head according to sub-section 4-8.

(3) Remove the tension coil spring.

(4) Remove stop washer 1.5, then remove the compression coil spring.

(5) Remove the stabilizer ass'y from the chassis.

IP roller (TG-4 guide)

(6) Remove the stop ring, then remove the IP roller.

TG-3 guide

(7) Turn the TG-3 guide counterclockwise with a guide adjustment screwdriver, and remove it.

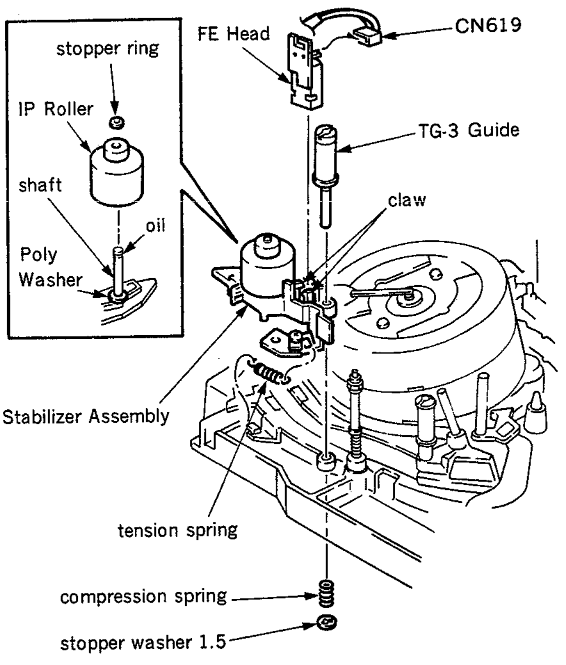

stopper ring
IP Roller
shaft
oil
Poly Washer
FE Head
CN619
TG-3 Guide
claw
Stabilizer Assembly
tension spring
compression spring
stopper washer 1.5

Fig. 1

Note on installation

①Clean the mounting shaft of the IP roller with cleaning fluid, then apply 1/3 of a drop of Sony oil.

②Install the TG-3 guide to the height shown in Fig. 2.

[**Adjustment after replacement**]

TG-3 guide height adjustment

(1) Press the PLAY button on the remote controller for the threading completion mode. (See sub-section 4-1-3.)

(2) Clean the mounting face of the reference plate and the four mounting points on the chassis with cleaning fluid.

(3) Install the reference plate on the chassis. (Fig. 3) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)

(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.

(5) Set the master block with the stamped L3 face upward, then place it against the TG-3 guide from the direction shown in the drawing, and confirm that the height of the lower flange satisfies the specification. (Figs. 3 and 4)

If the specification is not satisfied

(6) Turn the flange of the TG-3 guide with the guide adjustment screwdriver.

(7) Perform tape path alignment of section 5.

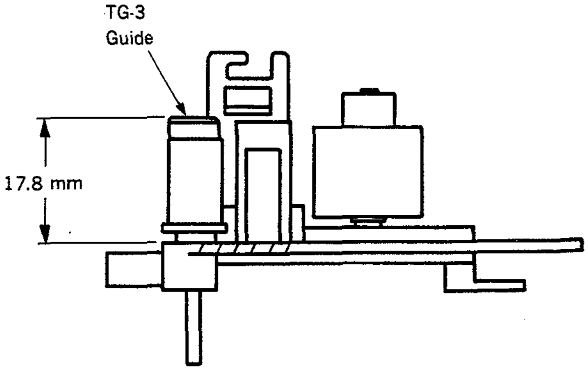

TG-3
Guide
17.8 mm

Fig. 2

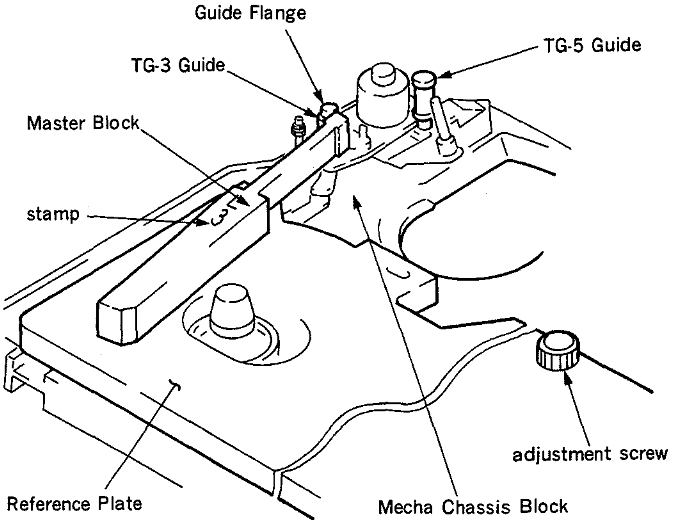

Guide Flange
TG-3 Guide
TG-5 Guide
Master Block
stamp
adjustment screw
Reference Plate
Mecha Chassis Block

Fig. 3

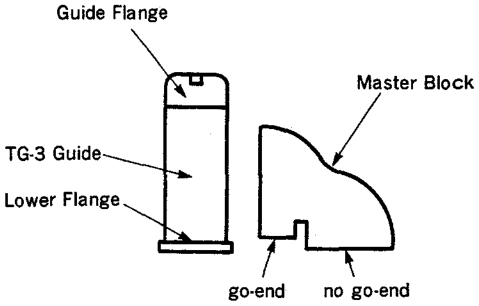

Guide Flange
Master Block
TG-3 Guide
Lower Flange
go-end
no go-end

Fig. 4

Spec.:
The height of the lower flange must pass at the go-end of the master block and stop at the no go-end.

4-10. AUDIO HEAD ASS'Y REPLACEMENT

Tools :

Reference plate (J-6380-080-A)
Master block (J-6380-700-A)
Box screwdriver (width 5.5 mm)
Thickness gauge (9-911-053-00)
Remote controller (RM-V100 or RM-V200)
MOLYKOTE grease EM-30LG (J-6090-014-A)
or EM-30L (4-918-645-01) : DOW CORNING Corp.

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Disconnect connectors CN616, 617 and 618 from the AH board.
(3) Remove the tension coil spring.
(4) Remove the AC adjustment screw.
(5) Remove the adjustment nut, then pull out the audio head ass'y.

Note on installing the audio head

①Insert part **a** of the torsion coil spring into the hole in the chassis, then insert part **b** into the bend in the ACE base ass'y. (Fig. 1)
②Smear grease onto the part **c** that the ACE base ass'y touch the AC adjustment screw. (Fig. 1)
③Install the audio head ass'y and the AC adjustment screw to the height shown in Fig. 3.

[**Adjustment after replacement**]

Audio head zenith adjustment

(1) Push the PLAY button of the remote controller for the threading completion mode. (See sub-section 4-1-3.)
(2) Clean the mounting face of the reference plate and the four mounting points on the chassis with cleaning fluid.
(3) Install the reference plate on the chassis. (Fig. 2) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
(5) Set the master block with the stamped L1 face upward, then place it gently against the audio head from the direction shown in the drawing (Fig. 2).

Caution : Take care not to damage the surface of the audio head.

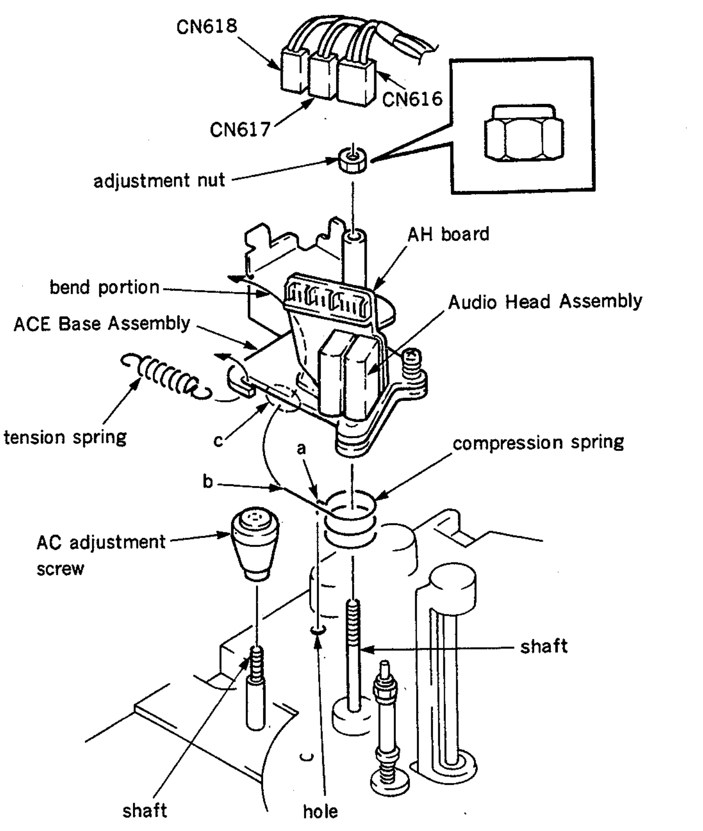

CN618
CN616
CN617
adjustment nut
AH board
bend portion
Audio Head Assembly
ACE Base Assembly
tension spring
c
a
compression spring
b
AC adjustment screw
shaft
shaft
hole

Fig. 1

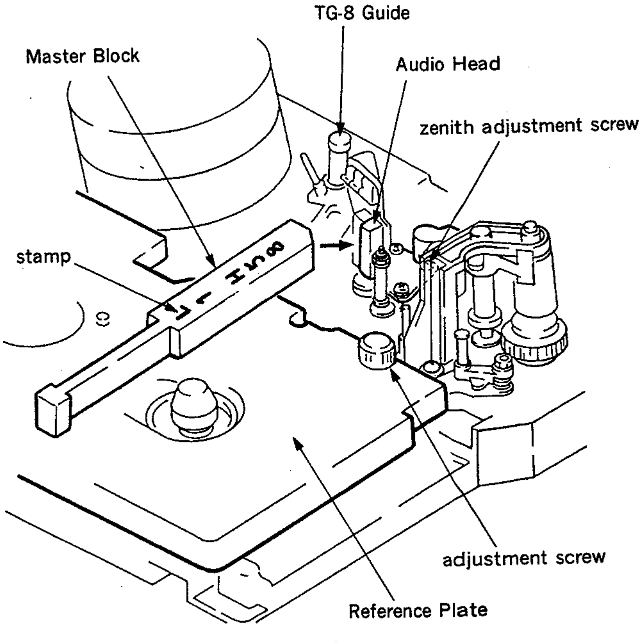

TG-8 Guide
Master Block
Audio Head
zenith adjustment screw
stamp
adjustment screw
Reference Plate

Fig. 2

(6) Tilt the head with the zenith adjustment screw until gap A satisfies the specification. (Fig. 4)

Audio head azimuth adjustment

(7) Change the orientation of the master block and place it against the side of the audio head from the direction shown in the drawing. (Fig. 5)

(8) Turn the azimuth adjustment screw so that gaps B and C satisfy the specification. (Fig. 6)

(9) Confirm that the zenith specification is satisfied.

If the specification is not satisfied

(10) Repeat the zenith and azimuth adjustments until the relevant specifications are satisfied.

Tape run adjustment

(11) Perform tape path alignment of section 5.

- Upon completion of adjustment, smear locking compound onto the AC adjustment screw, zenith adjustment screw and the azimuth adjustment screw. (Fig. 7)

Electric adjustment

(12) Section 7-4. Normal Audio PB Frequency Response Adjustment.

(13) Section 7-5. Normal Audio PB Level Adjustment.

(14) Section 7-7. Normal Audio Overall Frequency Response Adjustment.

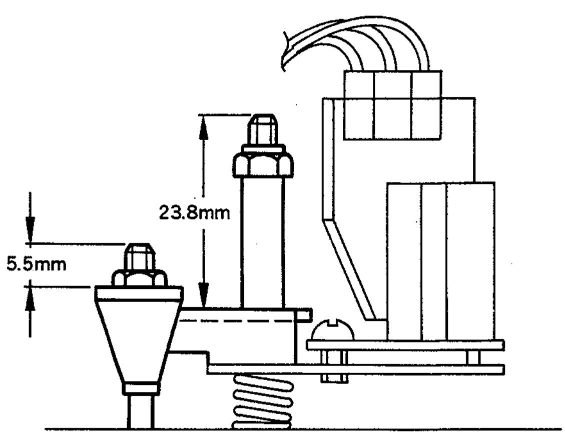
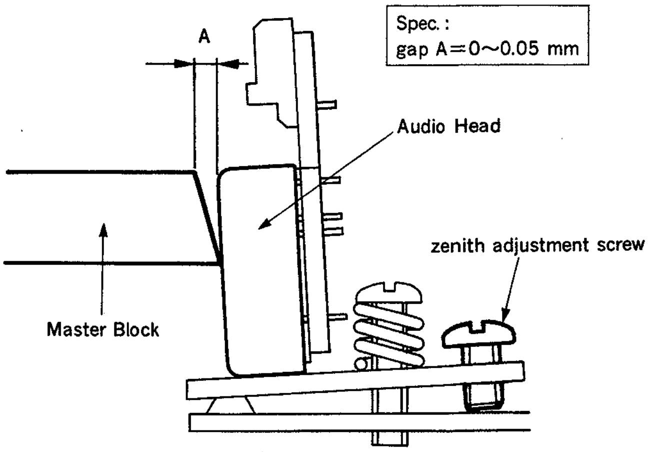


Fig. 3


A
Audio Head
zenith adjustment screw
Master Block

Spec. :
gap A=0~0.05 mm

Fig. 4

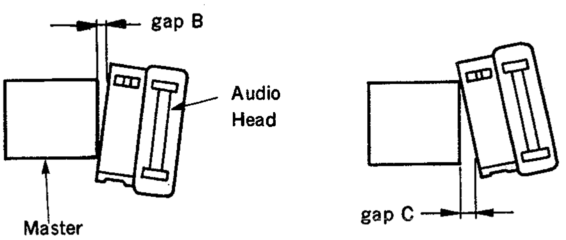

gap B
Audio Head
Master Block
gap C

Fig. 6

Spec. :
gap B, C=0~0.05mm

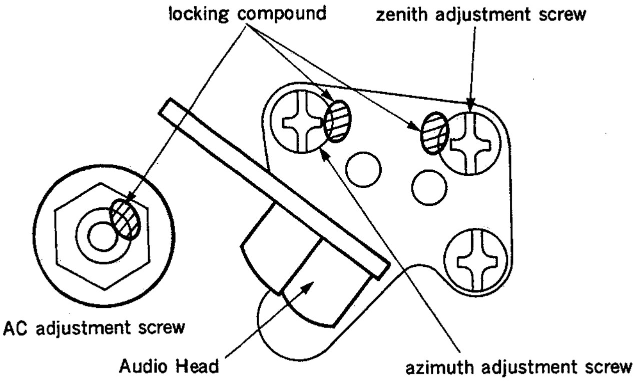

locking compound
zenith adjustment screw
AC adjustment screw
Audio Head
azimuth adjustment screw

Fig. 7

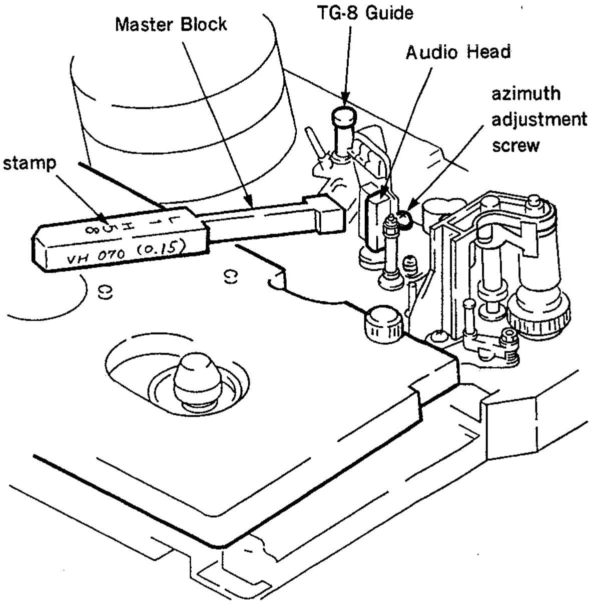

Master Block
TG-8 Guide
Audio Head
azimuth adjustment screw
stamp
VH 070 (0.15)

Fig. 5

4-11. TG-9 GUIDE REPLACEMENT

Tools :

Reference plate (J-6380-080-A)
Master block (J-6380-700-A)
Box screwdriver (5.5 mm)
Remote controller (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Turn the nyron nut and remove it. (Fig. 1)
(3) Remove the upper flange and TG-9 guide from shaft. (Fig. 1)

[Installation and height adjustment]

(1) Press the PLAY button on the remote controller for the threading completion mode. (See sub-section 4-1-3.)
(2) Clean the mounting face of the reference plate and the four mounting points on the chassis with cleaning fluid.
(3) Install the reference plate on the chassis. (Fig. 3) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
(5) Set the master block with the stamped L1 face upward, then place it against the TG-9 guide from the direction shown in the drawing.
Turn the nyron nut to meet the specification.
(6) Perform tape path alignment of section 5.

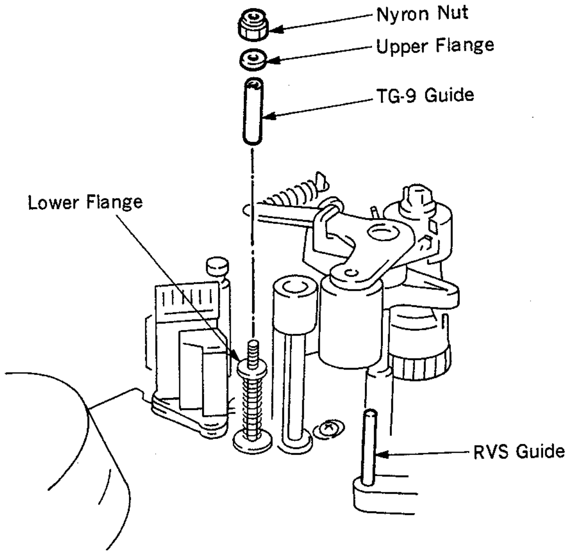

Nyron Nut
Upper Flange
TG-9 Guide
Lower Flange
RVS Guide

Fig. 1

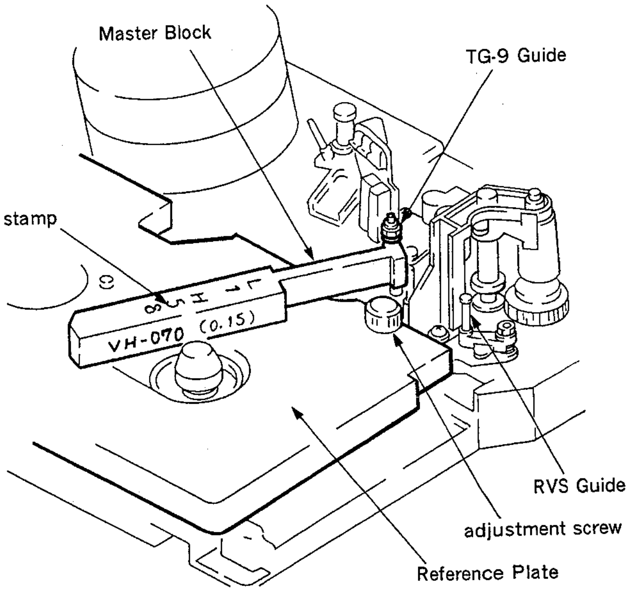
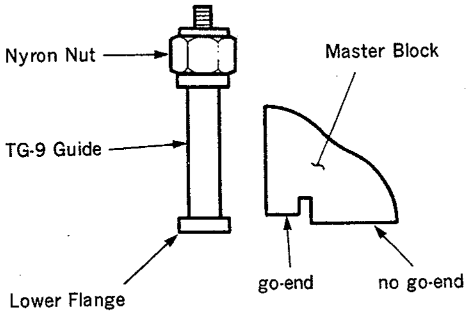

Master Block
TG-9 Guide
stamp
L1
VH-070 (0.15)
RVS Guide
adjustment screw
Reference Plate

Fig. 2


Nyron Nut
TG-9 Guide
Lower Flange
Master Block
go-end
no go-end

Spec. :
The height of the lower flange must pass at the go-end of the master block and stop at the no go-end.

Fig. 3

4-12. PINCH ROLLER BLOCK ASS'Y AND ELEVATOR CAM REPLACEMENT

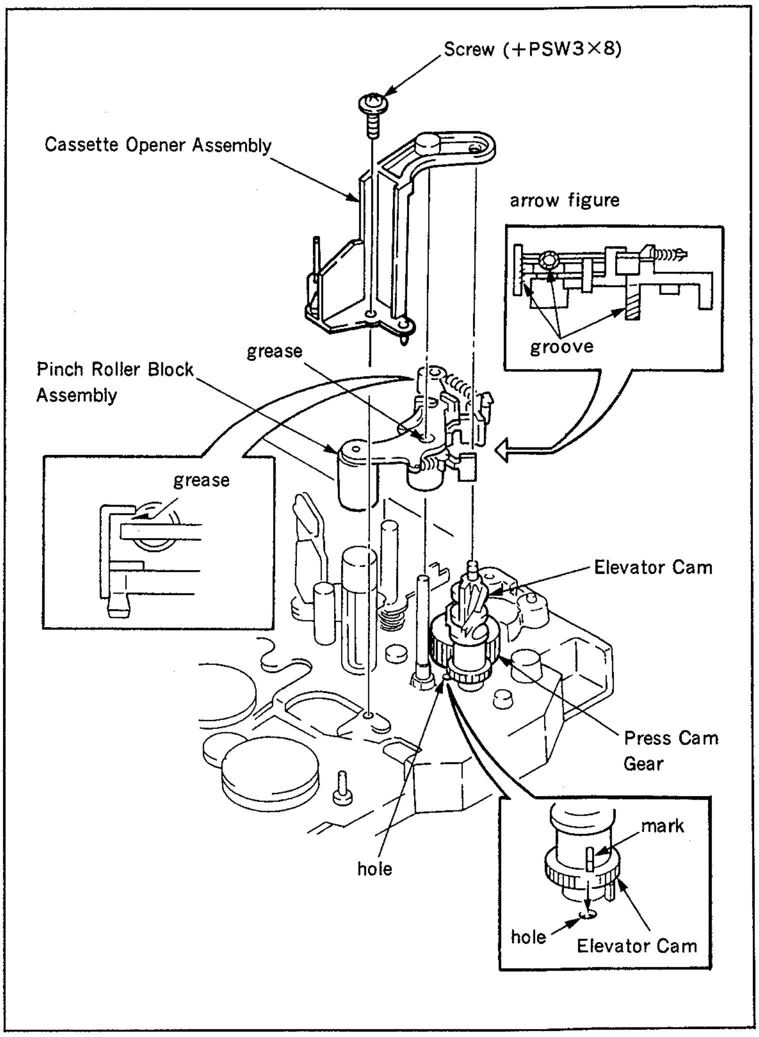
Tool :
MOLYKOTE grease EM-30LG (J-6090-014-A)
or EM-30L (4-918-645-01) : DOW CORNING Corp.

(1) Remove the screw, then remove the cassette opener ass'y.
(2) Pull out the pinch roller block ass'y.
(3) Pull out the elevator cam.

Note on installation

①Align the mark on the elevator cam with the hole in the chassis, then engage the elevator cam with the press cam gear, and install it on the shaft. (As a result, the engagement phases of the elevator cam and press cam gear will coincide.)

②Smear the parts of the pinch roller block ass'y indicated by the arrows (five) with MOLYKOTE grease.


Screw (+PSW3×8)
Cassette Opener Assembly
arrow figure
groove
grease
Pinch Roller Block Assembly
grease
Elevator Cam
Press Cam Gear
mark
hole
hole
Elevator Cam

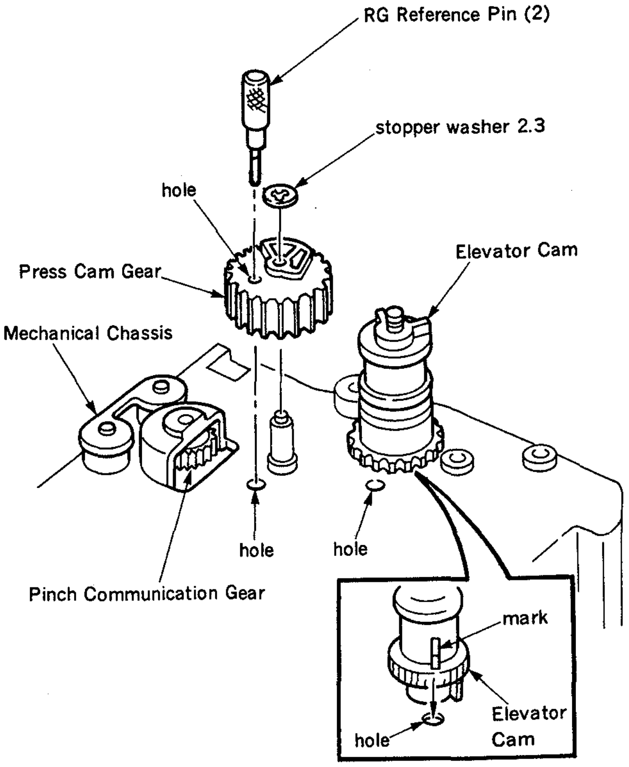
4-13. PRESS CAM GEAR REPLACEMENT

Tool :
RG reference pin (2) (J-6380-050-A)

(1) Remove the pinch roller block ass'y and Pinch solenoid ass'y according to Sec. 4-12 and 4-31.
(2) Remove stop washer 2.3, then remove the press cam gear.

Note on installation

①Pass RG reference pin (2) through the hole in the press cam gear. Next, align it with the hole in the chassis, then engage the press cam gear with the elevator cam and the pinch communication gear, and install it on the shaft.
(By aligning the pin with the holes in the gear, the meshing phases of the press cam gear, elevator cam and pinch communication gear will coincide.)
②The mark on the elevator cam shown in the figure must coincide with the hole in the chassis.


RG Reference Pin (2)
stopper washer 2.3
hole
Elevator Cam
Press Cam Gear
Mechanical Chassis
hole
hole
Pinch Communication Gear
mark
Elevator Cam
hole

4-14. RVS ARM ASS'Y (RVS GUIDE) AND RVS CAM GEAR REPLACEMENT

Tools :
RG reference pin (1) (J-6380-040-A)
Reference plate (J-6380-080-A)
Master block (J-6380-700-A)
Box screwdriver (width 5.5 mm)
Remote controller (RM-V100 or RM-V200)
Sony oil (7-661-018-18)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Remove the E ring, then pull out the RVS arm ass'y. (Fig. 2)
(3) Remove the adjustment nut, then remove the guide base ass'y and the compression coil spring. (Fig. 1)
(4) Remove stop washer 2.3, then pull out the RVS cam gear. (Fig. 2)

Note on installation

①Insert the projection on the guide base ass'y into the hole in the RVS arm, then install the guide base ass'y. (Fig. 1)
②Pass RG reference pin (1) through the hole in the RVS cam gear, then align it with hole B in the chassis, engage the RVS cam gear with the RVS relay gear, then install the gears on the shafts. (Fig. 2). Also, confirm that the hole in the press cam gear coincides with the hole in the chassis. (Refer to sub-section 4-13.)
(By aligning the hole in the gear, the engagement phases of the drive gears will coincide.)
③Clean the mounting shaft of the RVS arm ass'y with cleaning fluid, then apply 1/2 a drop of Sony oil. (Fig. 2)
④Insert part **a** of the torsion coil spring into hole A in the chassis, then insert part **b** into the bend in the RVS arm ass'y. (Fig. 2)

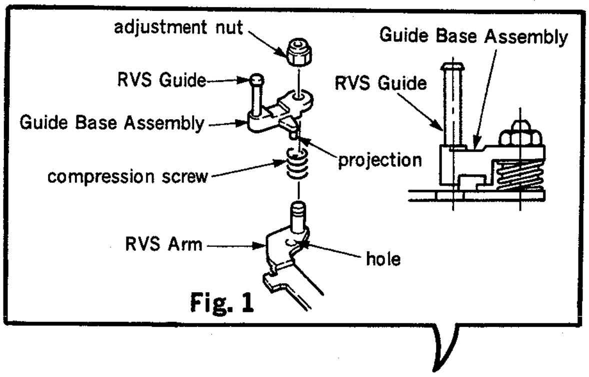

adjustment nut
Guide Base Assembly
RVS Guide
RVS Guide
Guide Base Assembly
projection
compression screw
RVS Arm
hole

Fig. 1

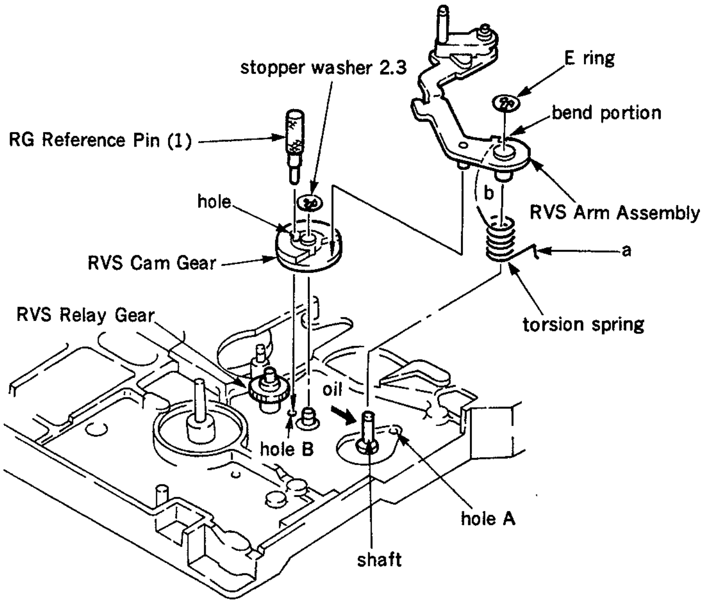

stopper washer 2.3
E ring
bend portion
RG Reference Pin (1)
hole
b
RVS Arm Assembly
a
RVS Cam Gear
RVS Relay Gear
torsion spring
oil
hole B
hole A
shaft

Fig. 2

[Adjustment after replacement]

RVS guide height adjustment

(1) Press the PLAY button on the remote controller for the threading completion mode. (Refer to Sec. 4-1-3.)
(2) Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
(3) Install the reference plate on the chassis. (Fig. 3) (If the reference plate moves about when the top of the plate is touched gently manually at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
(5) Set the master block with the stamped L1 face upward, then place it against the RVS guide from the direction shown in the figure. (Fig. 3)
(6) Using a box screwdriver, turn the adjustment nut until the specification is satisfied. (Fig. 4)
(7) Perform tape path alignment of Sec. 5.

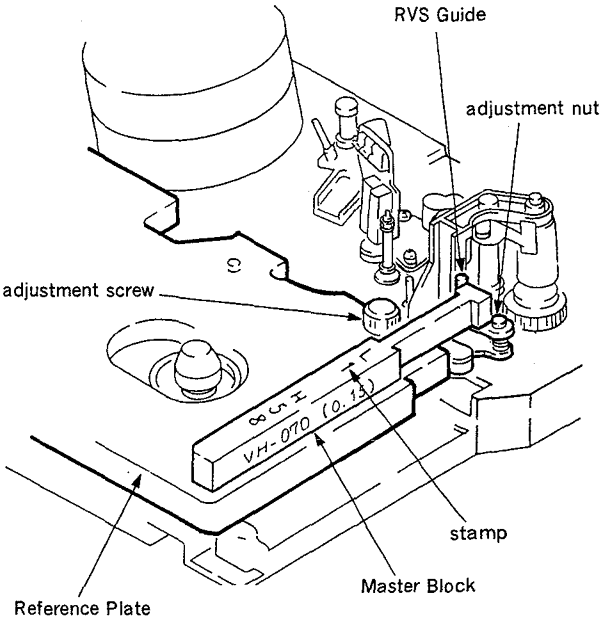

RVS Guide
adjustment nut
adjustment screw
stamp
Master Block
Reference Plate

Fig. 3

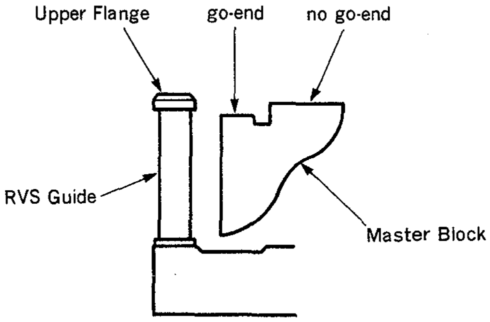

Upper Flange
go-end
no go-end
RVS Guide
Master Block

Fig. 4

Spec. :
The height of the upper flange must pass at the go-end of the master block and stop at the no go-end.

4-15. FR DRIVE GEAR AND RVS RELAY GEAR REPLACEMENT

Tools :
RG reference pin (1) (J-6380-040-A)
RG reference pin (2) (J-6380-050-A)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Remove the RVS arm ass'y and the RVS cam gear according to sub-section 4-14.
(3) Remove each of stop washer 2.3, then remove the FR drive gear and the RVS relay gear. (Fig. 1)

Note on installation

Gear installation sequence

①Install the RVS relay gear on the shaft, taking care that it is facing the right direction. (Fig. 3)
②Pass RG reference pin (2) through the hole in the FR drive gear, then align it with the hole in the mode gear, engage the FR drive gear with the RVS relay gear, and install it on the shaft. (Fig. 1)
③Using RG reference pin (1), engage the RVS cam gear with the RVS relay gear, then install it on the shaft according to subsection 4-14. (Fig. 2)
(By aligning the holes, the engagement phases of the drive gears will coincide.)

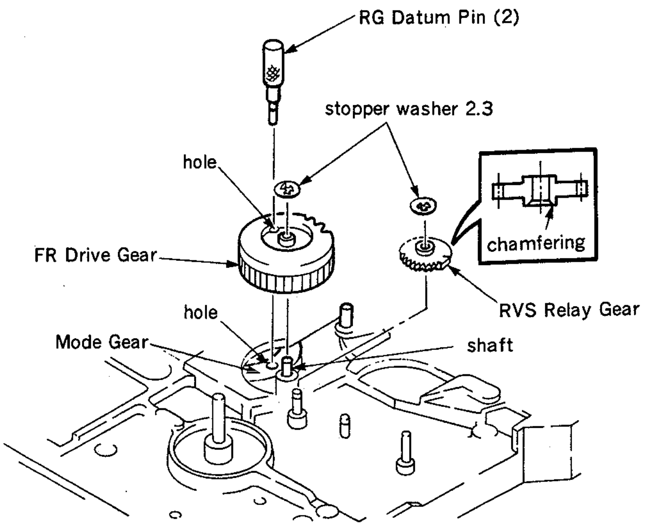

RG Datum Pin (2)
stopper washer 2.3
hole
chamfering
FR Drive Gear
hole
RVS Relay Gear
Mode Gear
shaft

Fig. 1

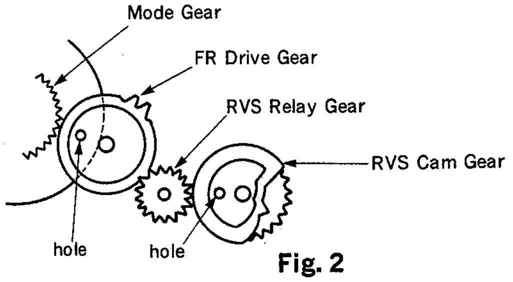

Mode Gear
FR Drive Gear
RVS Relay Gear
RVS Cam Gear
hole
hole

Fig. 2

4-16. REEL TABLE ASS'Y REPLACEMENT

Tools:
Reference plate (J-6380-080-A)
Reel table height adjustment tool (J-6380-090-A)
Hex wrench screwdriver (width 1.5 mm)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Remove the set screw with the hex wrench.
(3) Pull out the reel table ass'y from the reel shaft.

[Reel table height adjustment]

(1) Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
(2) Install the reference plate on the chassis. (Fig. 2) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(3) Clean the top of the reference plate and the adjustment face of the reel table height adjustment tool with cleaning fluid.
(4) Set the reel table height adjustment tool with the stamped side upward, then install it on the reference plate. (Fig. 2)
(5) Perform adjustment so that the height of the S side reel table (or T side reel table) satisfies the specification at position **a**, then rotate the table 90° in the direction of the arrow, and perform adjustment so that the height of the reel table satisfies the specification at position **b**. (Figs. 2 and 3)

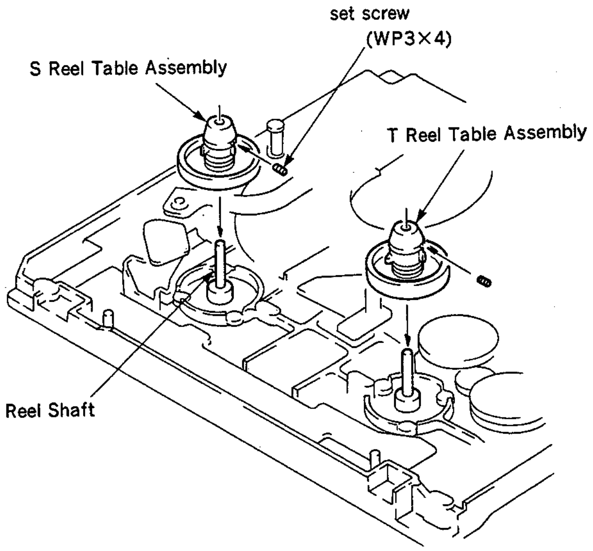

set screw
(WP3×4)
S Reel Table Assembly
T Reel Table Assembly
Reel Shaft

Fig. 1

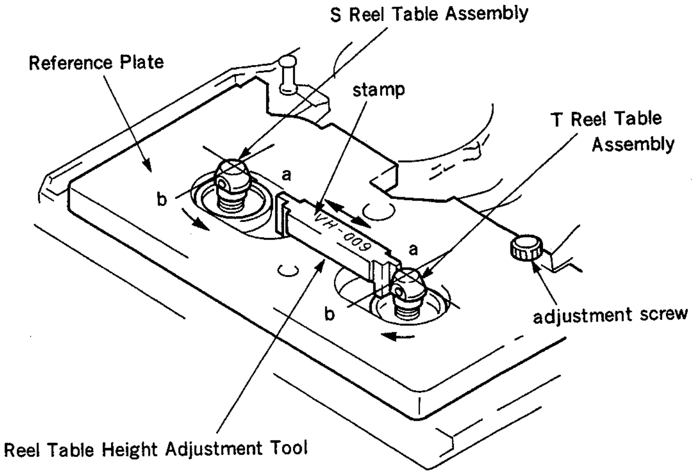

S Reel Table Assembly
Reference Plate
stamp
T Reel Table Assembly
a
b
VH-009
a
b
adjustment screw
Reel Table Height Adjustment Tool

Fig. 2

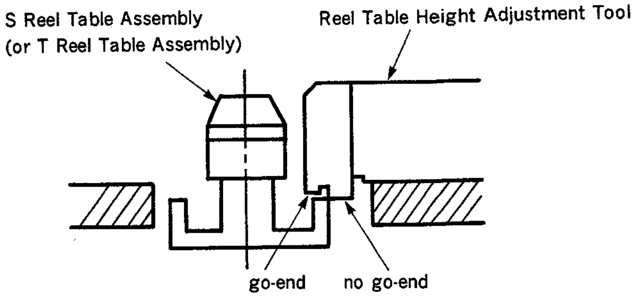

S Reel Table Assembly
(or T Reel Table Assembly)
Reel Table Height Adjustment Tool
go-end
no go-end

Fig. 3

Spec.:
The height of the S side (T side) reel table must pass at the go-end of the reel table height adjustment tool and stop at the no-go end.

4-17. REEL BRAKE ASS'Y REPLACEMENT

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Disconnect connector CN656 of the solenoid harness from the HN-198 board. (surface of chassis) (Fig. 1)
(3) Remove the two screws, then remove the reel brake ass'y. (back side of chassis) (Fig. 1)
(4) Remove the spring, then the claw of the M clamp, then remove the brake arm (S) ass'y and the brake arm (T) ass'y. (Fig. 2)
(5) Raise part A of the B slider in the direction of arrow B, then remove the claw from the iron core of the solenoid, and pull out the B slider in the direction of arrow C. (Fig. 2)
(6) Remove the two screws and two washers, then remove the solenoid. (Fig. 2)

Note on installation

①Smear locking compound onto the fixing screws of the reel brake ass'y.

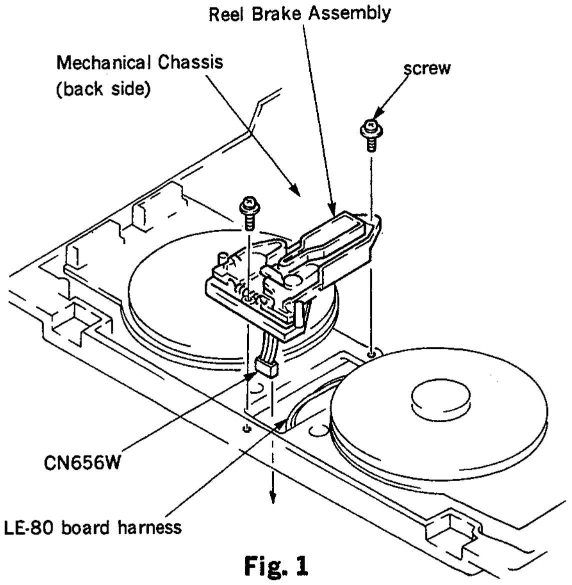

Reel Brake Assembly
Mechanical Chassis
(back side)
screw
CN656W
LE-80 board harness

Fig. 1

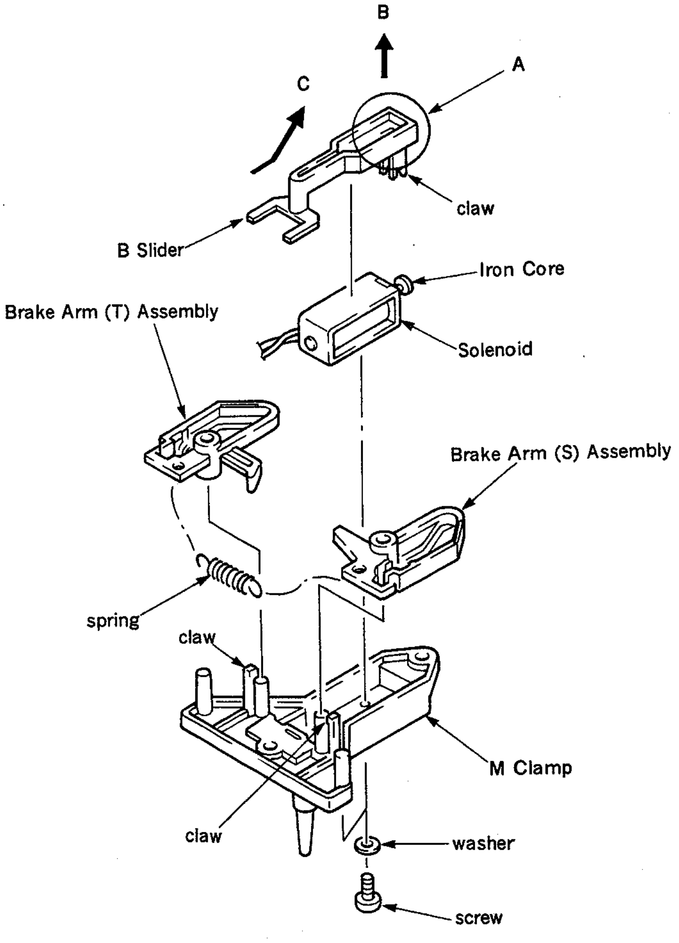

B
A
C
claw
B Slider
Iron Core
Brake Arm (T) Assembly
Solenoid
Brake Arm (S) Assembly
spring
claw
M Clamp
claw
washer
screw

Fig. 2

4-18. REEL MOTOR REPLACEMENT

Tools :
Reference plate (J-6380-080-A)
Reel table height adjustment tool (J-6380-090-A)
Hex wrench screwdriver (width 1.5 mm)

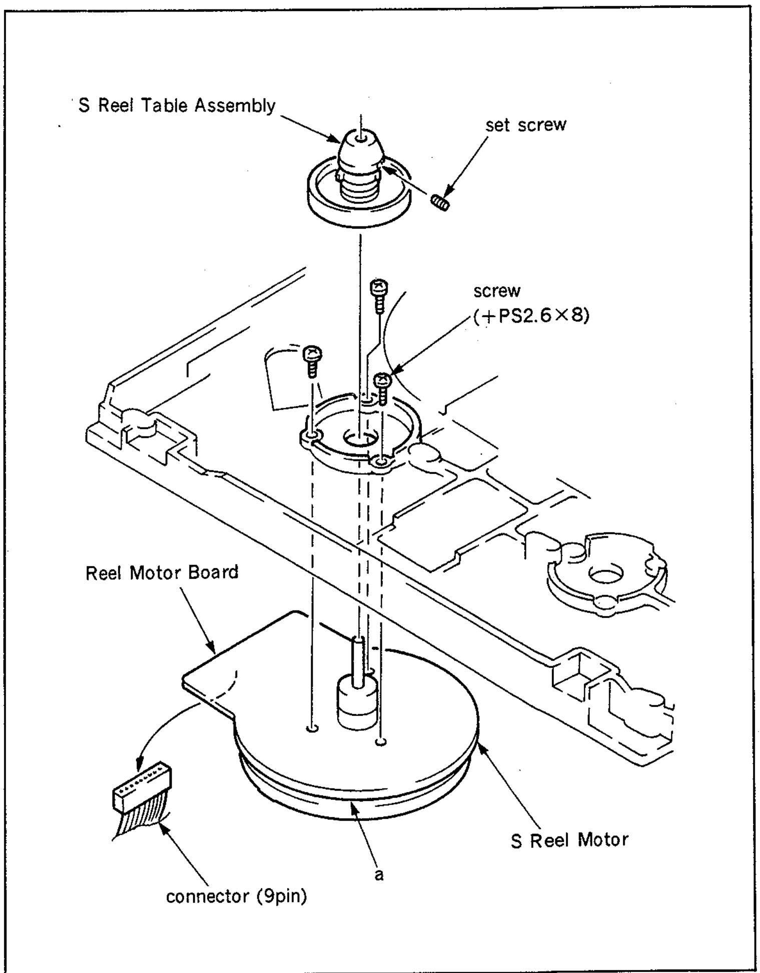
- The procedure of replacing the reel motor is the same for both the S side and the T side. Here, the procedure of replacing the S side reel motor is described.

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Remove the S side reel table ass'y according to sub-section 4-16.
(3) Disconnect the 9-pin connector from the reel motor board.
(4) Remove the three screws, then remove the S side reel motor.

Note : Do not touch the outer periphery (**a** part) of the reel motor with the fingers.

[Adjustment after installation]

(1) Adjust the height of the S side reel table ass'y according to sub-section 4-16.


S Reel Table Assembly
set screw
screw
(+PS2.6×8)
Reel Motor Board
S Reel Motor
a
connector (9pin)

4-19. DRIVE GEAR ASS'Y REPLACEMENT

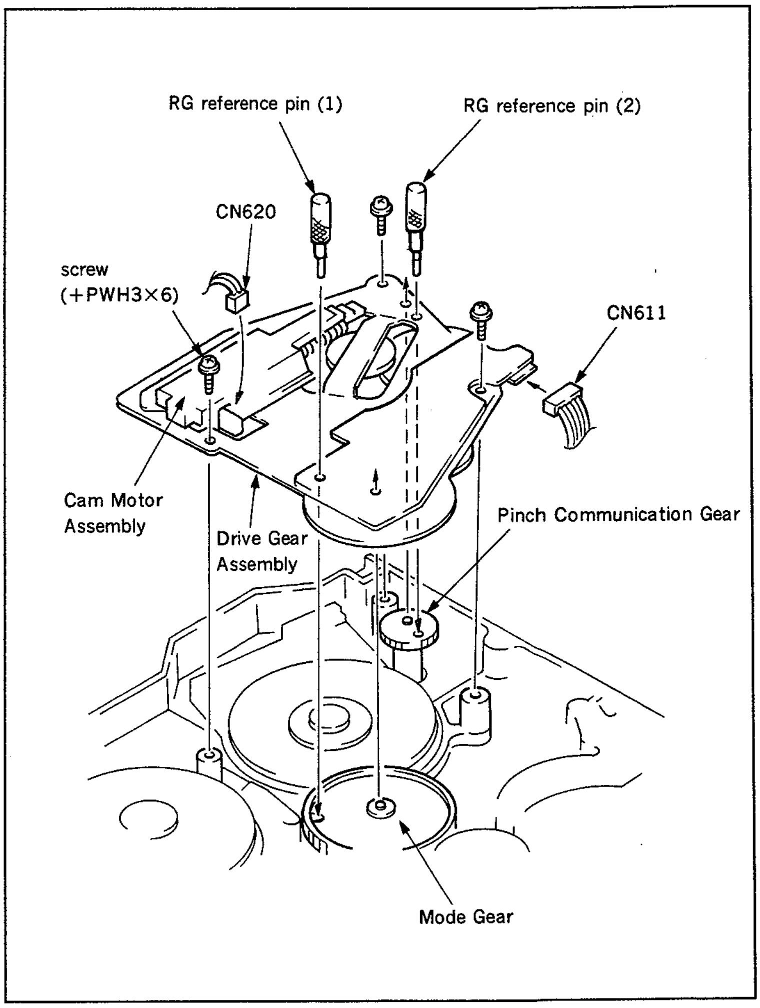
Tools :
RG reference pin (1) (J-6380-040-A)
RG reference pin (2) (J-6380-050-A)

(1) Disconnect connector CN611 from the PTC-73 board.
(2) Disconnect connector CN620 from the LD-35 board of the cam motor ass'y.
(3) Remove the three screws, then remove the drive gear ass'y.

Note : Take care not to rotate the mode gear and the pinch communication gear more than once, after removing the drive gear ass'y.

Note on installation

①Pass RG reference pin (1) and RG reference pin (2) through the holes in the drive gear ass'y shown in the figure, then align each of pins with the hole in the mode gear and communication gear, and install the drive gear ass'y.
(By aligning the hole in the gear, the engagement phases of the drive gears will coincide.)


RG reference pin (1)
RG reference pin (2)
CN620
screw
(+PWH3×6)
CN611
Cam Motor Assembly
Drive Gear Assembly
Pinch Communication Gear
Mode Gear

4-19-1. Cam motor ass'y replacement

(1) Remove the screw, then remove the cam motor ass'y. (Fig. 1)

Note on installation

①Align the groove of the cam motor ass'y with part **a** of the drive gear ass'y. (Fig. 1)
②Align the hole in the cam motor ass'y with the projection on the drive gear ass'y. (Fig. 1)
③Set the cam motor parallel to the **b** face of the drive gear ass'y, then screw it fixed. (Fig. 2)

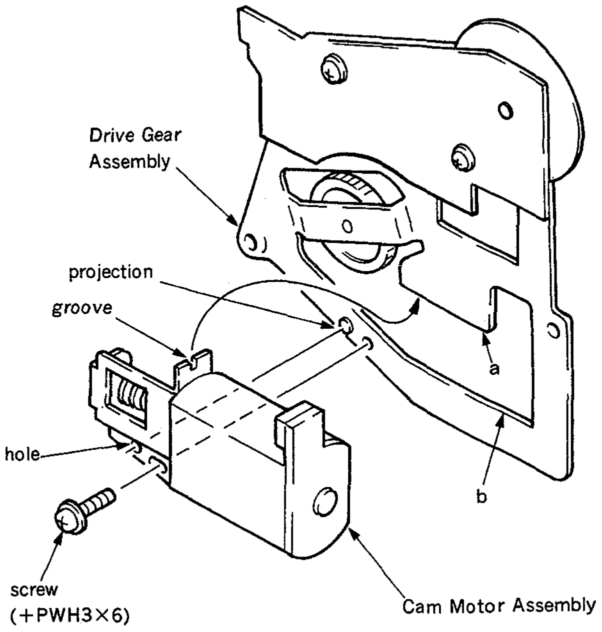

Drive Gear Assembly
projection
groove
hole
screw (+PWH3×6)
a
b
Cam Motor Assembly

Fig. 1

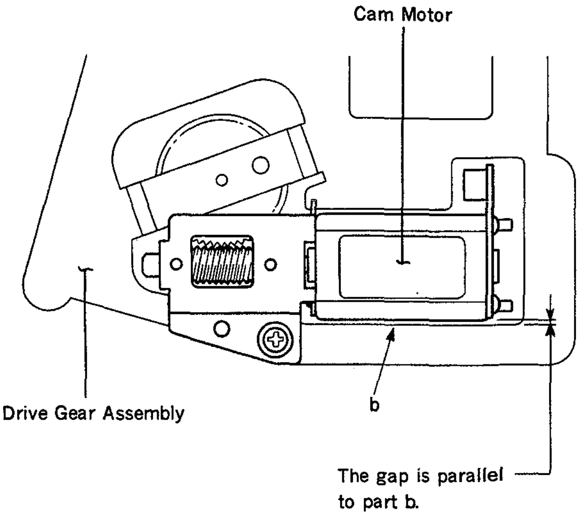

Cam Motor
Drive Gear Assembly
b
The gap is parallel to part b.

Fig. 2

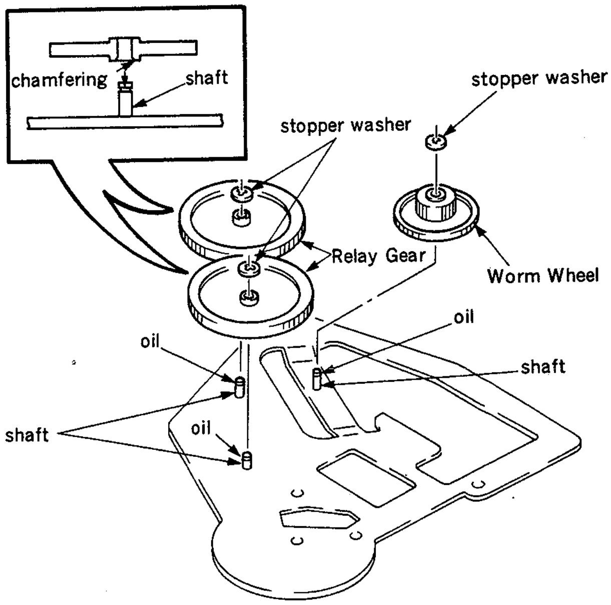
4-19-2. Relay gear and worm wheel replacement

Tool :
Sony oil (7-661-018-18)

(1) Remove the stop washer, then remove the relay gear and the worm wheel.

Note on installation

①Clean the shafts with cleaning fluid, then apply 1/2 a drop of Sony oil.


chamfering
shaft
stopper washer
stopper washer
Relay Gear
Worm Wheel
oil
oil
shaft
shaft
oil

4-20. MODE GEAR (2) ASS'Y REPLACEMENT

Tool :
RG reference pin (2) (J-6380-050-A)

(1) Remove the drive gear ass'y according to sub-section 4-19.
(2) Remove the stop washer, then remove the mode gear ass'y from the shaft. (Fig. 1)

Note on installation

①Push the loading gear (right) in the direction of arrow A. Pass RG reference pin (2) through the hole in the mode gear ass'y, then align it with the ※ mark on the chassis, then engage the mode gear ass'y with the FR drive gear, and install it. (Figs. 1 and 2)
(By aligning the hole in the gear, the engagement phases of the mode gear ass'y and the FR drive gear will coincide.)
②Align the engagement phases of the gears, and install the drive gear ass'y according to sub-section 4-19.

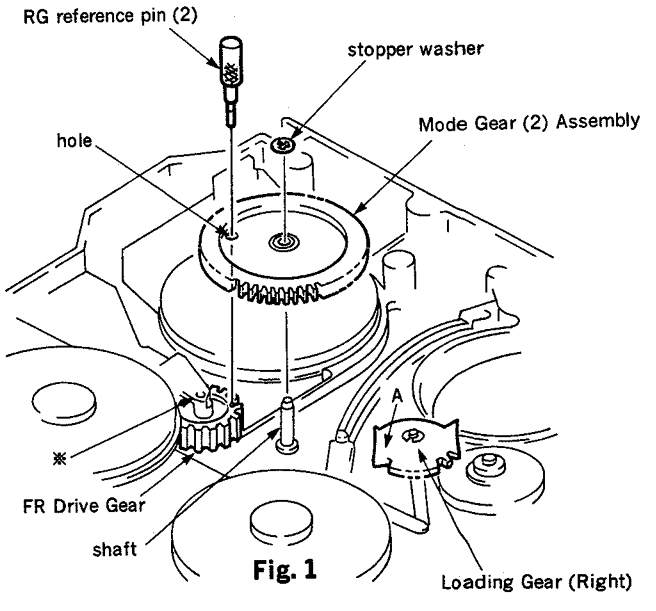

RG reference pin (2)
stopper washer
Mode Gear (2) Assembly
hole
A
※
FR Drive Gear
shaft
Loading Gear (Right)

Fig. 1

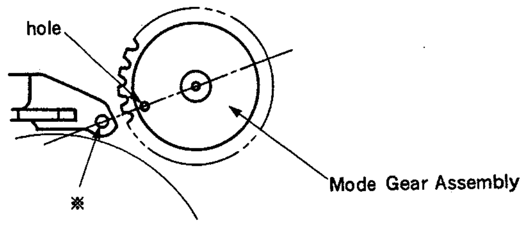

hole
Mode Gear Assembly
※

Fig. 2

4-21. LOADING GEAR (RIGHT) ASS'Y REPLACEMENT

Tool:
MOLYKOTE grease EM-30LG (J-6090-014-A)
or MOLYKOTE grease EM-30L: DOW CORNING Corp.

(1) Remove the drive gear ass'y according to sub-section 4-19.
(2) Remove the mode gear ass'y according to sub-section 4-20.
(3) Rotate the gear part of the loading gear (right) by hand in the direction of the arrow to the position shown in Fig. 1.
(4) Remove the two E rings, then remove the loading gear (right) ass'y. (Fig. 2)

Note: Take care not to deform the arm of the loading gear (right) ass'y.

Note on installation

①Align the mark on the loading gear (left) with the center point between two teeth on the loading gear (right), then install the chassis shaft and the shaft of the shuttle (right). (Fig. 3)
②Smear a small amount of Sony grease to the part of the loading gear (right) ass'y indicated in the figure. (Fig. 2)
③Align the engagement phases of the mode gear ass'y and the drive gear ass'y ,then install the gear ass'ys, according to sub-section 4-20 and 4-21.

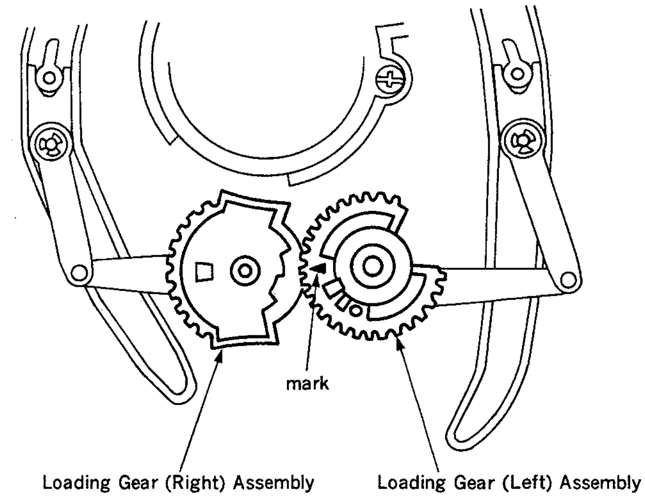

mark
Loading Gear (Right) Assembly
Loading Gear (Left) Assembly

Fig. 1

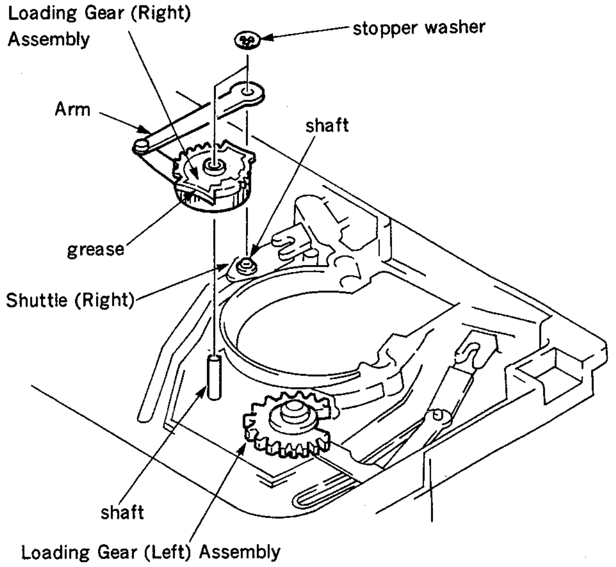

Loading Gear (Right) Assembly
stopper washer
Arm
shaft
grease
Shuttle (Right)
shaft
Loading Gear (Left) Assembly

Fig. 2

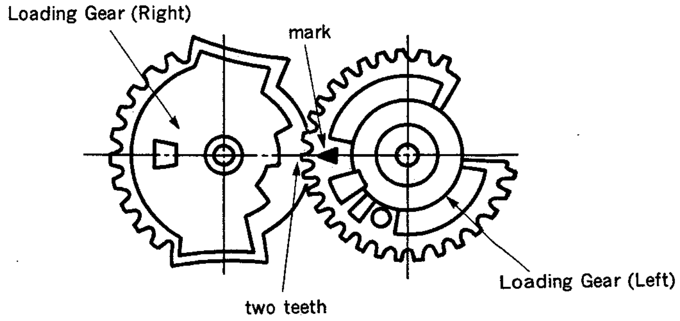

Loading Gear (Right)
mark
Loading Gear (Left)
two teeth

Fig. 3

4-22. LOADING GEAR (LEFT) ASS'Y REPLACEMENT

(1) Remove the cam motor ass'y according to subsection 4-19-1. (Fig. 1)

(2) Rotate the worm wheel of the drive gear block clockwise with the fingers until the loading gear (left) ass'y moves to the position shown in Fig. 2. (Figs. 1 and 2)

(3) Remove the two stop washers, then remove the loading gear (left) ass'y. (Fig. 3)

Note: Take care not to deform the arm of the loading gear (left) ass'y.

Note on installation

①Align the mark on the loading gear (left) with the center point between two teeth of the loading gear (right), then install the gears on the shaft of the chassis and the shaft of the shuttle (left). (Fig. 4)

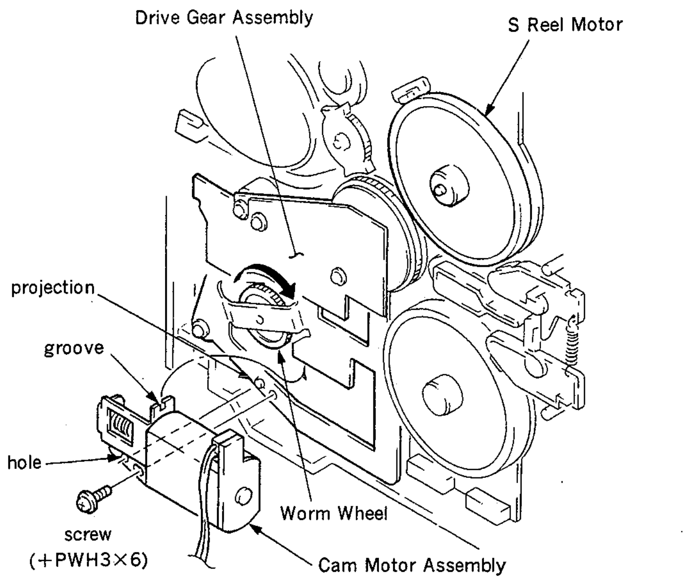

Drive Gear Assembly
S Reel Motor
projection
groove
hole
screw
(+PWH3×6)
Worm Wheel
Cam Motor Assembly

Fig. 1

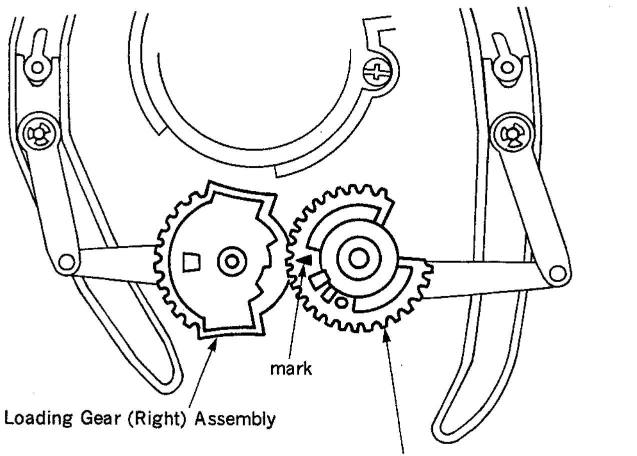

mark
Loading Gear (Right) Assembly
Loading Gear (Left) Assembly

Fig. 2

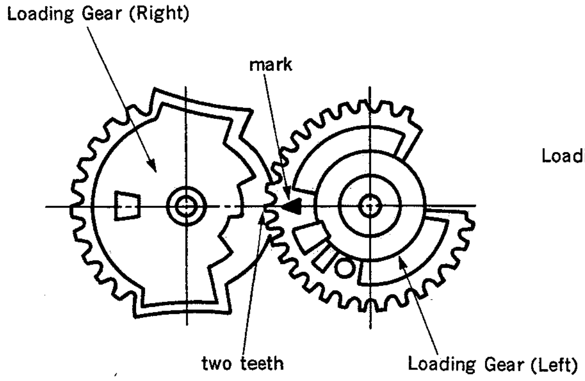

Loading Gear (Right)
mark
two teeth
Loading Gear (Left)

Fig. 4

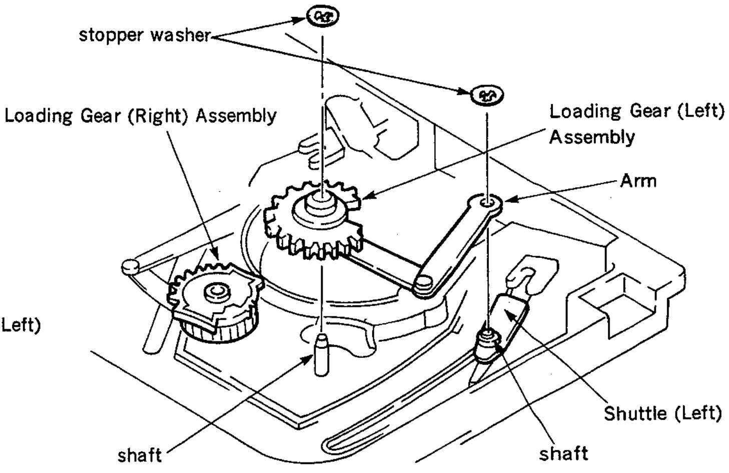

stopper washer
Loading Gear (Right) Assembly
Loading Gear (Left) Assembly
Arm
Shuttle (Left)
shaft
shaft

Fig. 3

4-23. SHUTTLE (RIGHT) ASS'Y REPLACEMENT

Tools :

Reference plate (J-6380-080-A)
Master block (J-6380-550-A)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Remote controller (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Refer to sub-section 4-22, then move the loading gear (right) ass'y to the position shown in Fig. 1.
(3) Remove the stop washer, then remove the arm of the loading gear (right) ass'y from the shaft of the shuttle plate ass'y. (Fig. 2)

Note : Take care not to deform the arm of the loading gear (right) ass'y.

(4) Remove the screw, then remove the shuttle (right) ass'y and the shuttle plate ass'y. (Fig. 3)

Note : Move the shuttle (right) ass'y in the unthreading end direction to ensure that it does not strike the drum ass'y, then remove it.

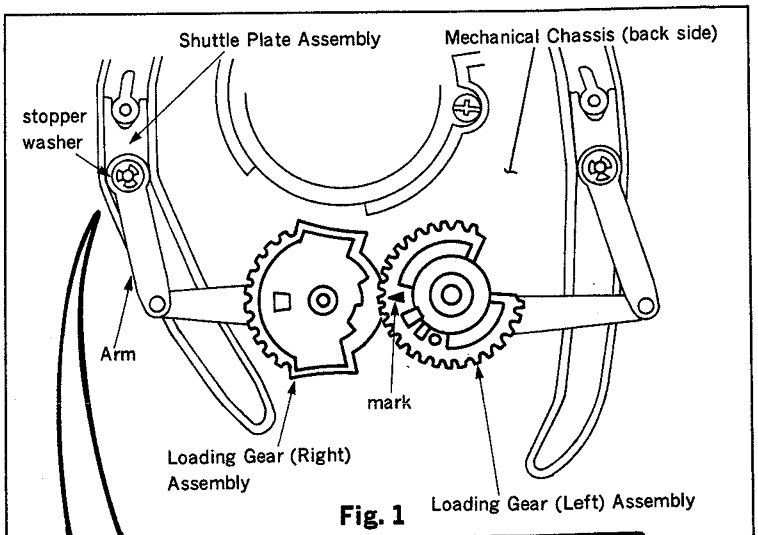

Shuttle Plate Assembly
Mechanical Chassis (back side)
stopper washer
Arm
mark
Loading Gear (Right) Assembly
Loading Gear (Left) Assembly

Fig. 1

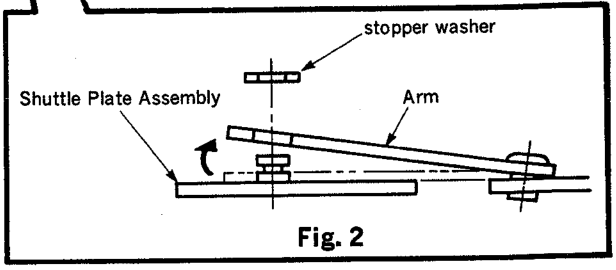

stopper washer
Shuttle Plate Assembly
Arm

Fig. 2

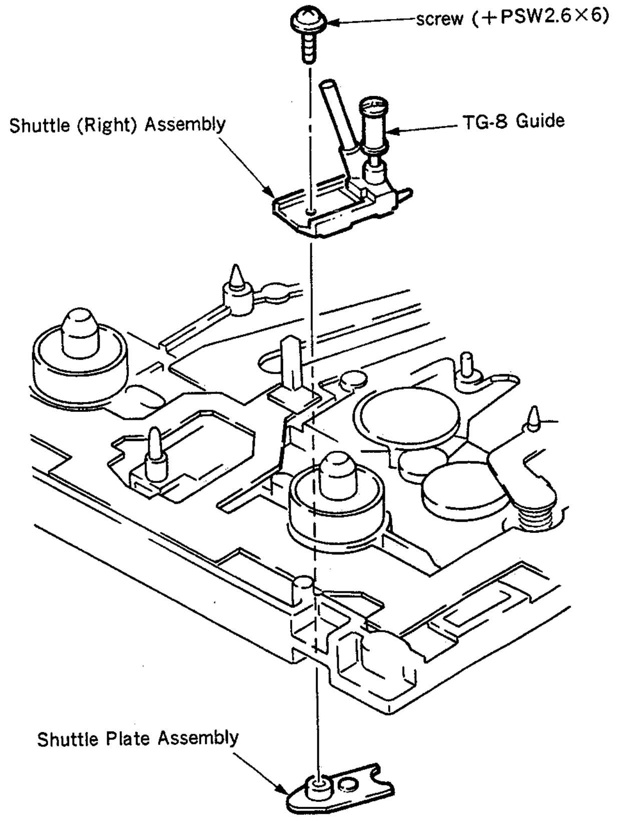

screw (+PSW2.6×6)
Shuttle (Right) Assembly
TG-8 Guide
Shuttle Plate Assembly

Fig. 3

Note on installation

①Put the screw as shown in Fig. 4 when installing the shattle (right) ass'y to the shattle plate ass'y.

[**Adjustment after replacement**]

TG-8 guide height adjustment

(1) Press the PLAY button on the remote controller for the threading completion mode. (Refer to Sec. 4-1-3.)
(2) Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
(3) Install the reference plate on the chassis. (Fig. 5) (If the reference plate moves about when the top of the plate is touched gently manually at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
(4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
(5) Set the master block with the H10 stamped mark upward, then place it against the TG-8 guide from the direction shown in the figure. (Fig. 5)
(6) Using the guide adjustment screwdriver, turn the upper flange on the guide until the specification is satisfied. (Fig. 6)
(7) Perform tape path alignment of Sec. 5.

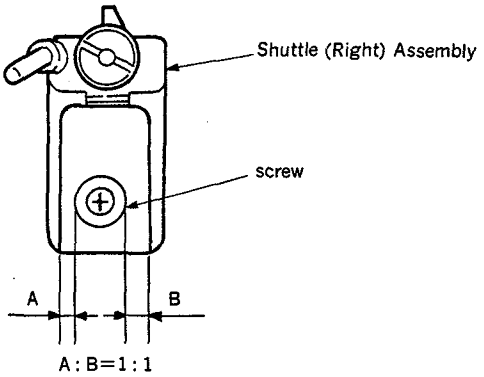

Shuttle (Right) Assembly
screw
A
B
A : B=1 : 1

Fig. 4

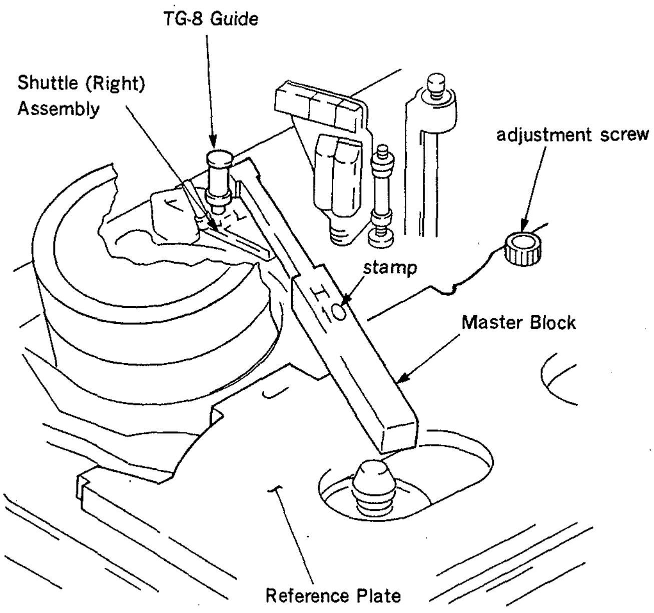

TG-8 Guide
Shuttle (Right) Assembly
adjustment screw
stamp
H10
Master Block
Reference Plate

Fig. 5

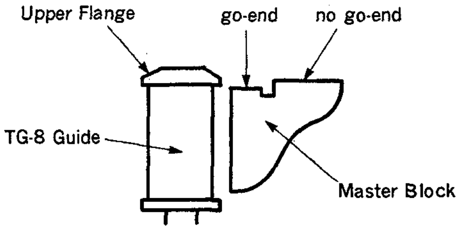

Upper Flange
go-end
no go-end
TG-8 Guide
Master Block

Fig. 6

Spec. :
The height of the upper flange must pass at the go-end of the master block and stop at the no go-end.

4-24. TG-8 GUIDE REPLACEMENT

Tools :
Reference plate (J-6380-080-A)
Master block (J-6380-550-A)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Hex wrench screwdriver (width 0.89 mm)
Remote controller (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Loosen the set screw with a hex wrench. (Fig. 1)
(3) Rotate the TG-8 guide counterclockwise with the guide adjustment screwdriver, and remove it. (Fig. 1)

Note on installation

①Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
②Install the reference plate on the chassis. (Fig. 2) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
③Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
④Set the master block with the H10 stamped mark upward, then place it against the TG-8 guide from the direction shown in the figure, and tighten the set screw until the upper flange is roughly the same height as the go-end of the master block. (Figs. 2 and 3)
(Tightening torque of set screw: $78\times10^{-3}\sim98\times10^{-3}$ N•m (0.8~1 kg•cm))

[**Adjustment after replacement**]
(1) Perform TG-8 guide height adjustment according to sub-section 4-23.
(2) Perform tape path alignment of section 5.

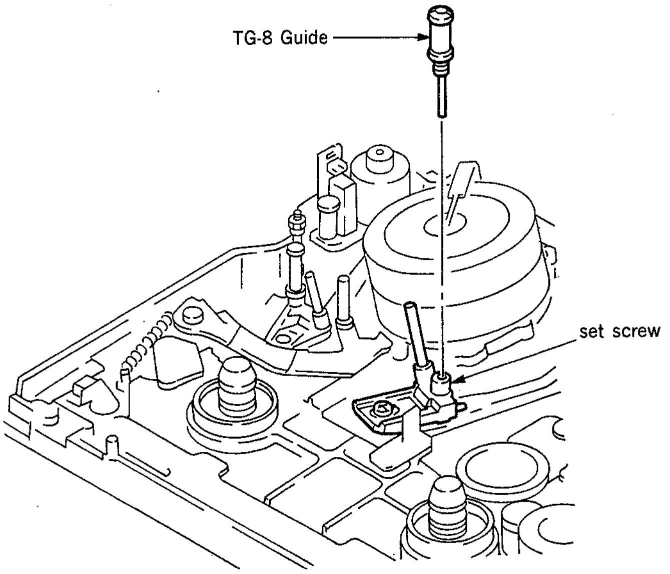


Fig. 1

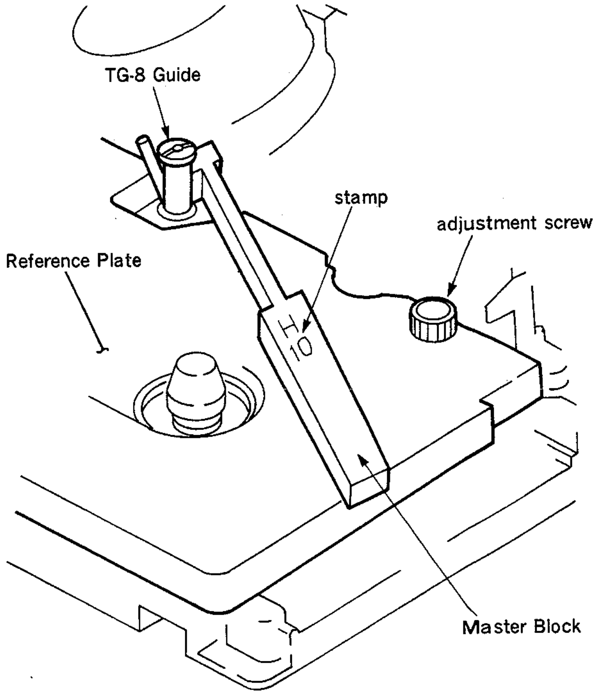


Fig. 2

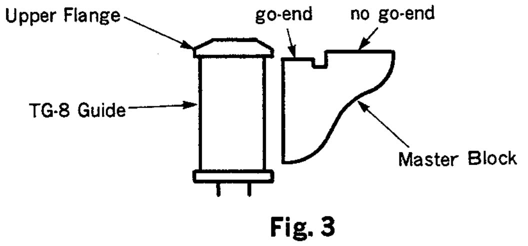


Fig. 3

4-25. SHUTTLE (LEFT) ASS'Y REPLACEMENT

Tools:

Reference plate (J-6380-080-A)
Master block (J-6380-550-A)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Remote controller: (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.

(2) Remove the stop washer, then remove the arm of the loading gear (left) ass'y from the shaft of the shuttle plate ass'y. (Fig. 1)

Note: Take care not to deform the arm of the loading gear (left) ass'y.

(3) Remove the screw, then remove the shuttle (left) ass'y and the shuttle plate ass'y. (Fig. 2)

Note on installation

①The tension regulator ass'y and shuttle (left) ass'y must be in the position shown in Fig. 3.

②Put the screw as shown in Fig. 4 when installing the shattle (left) ass'y to the shattle plate ass'y.

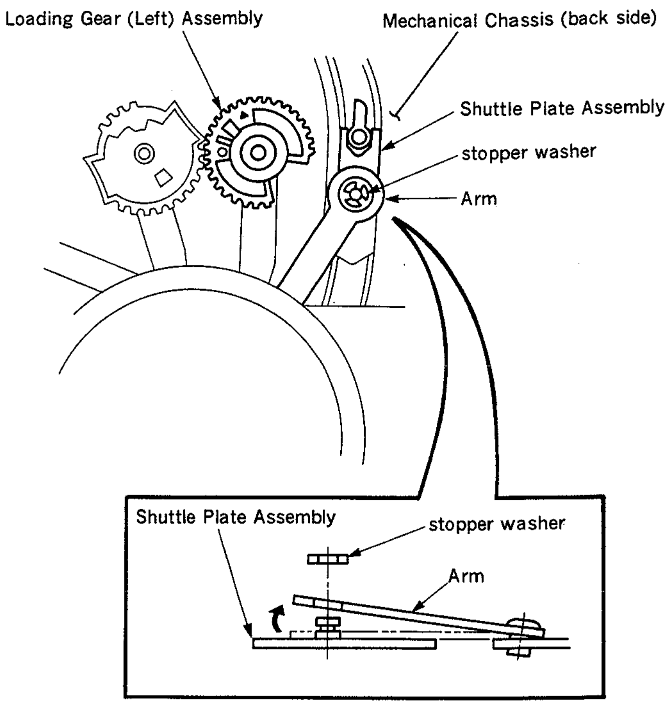

Loading Gear (Left) Assembly
Mechanical Chassis (back side)
Shuttle Plate Assembly
stopper washer
Arm
Shuttle Plate Assembly
stopper washer
Arm

Fig. 1

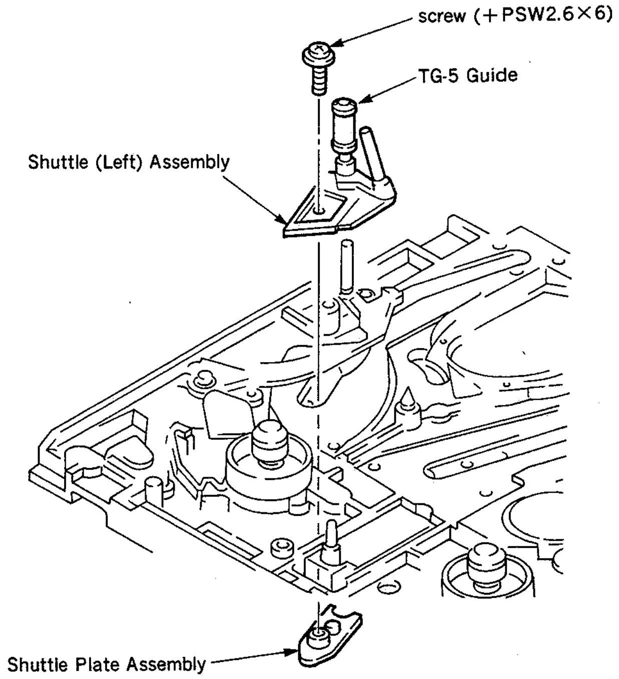

screw (+PSW2.6×6)
TG-5 Guide
Shuttle (Left) Assembly
Shuttle Plate Assembly

Fig. 2

[Adjustment after replacement]

TG-5 guide height adjustment

1. (1) Press the PLAY button on the remote controller for the threading completion mode. (See sub-section 4-1-3.)
2. (2) Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
3. (3) Install the reference plate on the chassis. (Fig. 5) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
4. (4) Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
5. (5) While moving the stabilizer in the direction of the arrow, set the master block with the H10 stamped mark upward, then place it against the TG-5 guide from the direction shown in the figure. (Fig. 5)
6. (6) Using the guide adjustment screwdriver, turn the upper flange on the guide until the specification is satisfied. (Fig. 6)
7. (7) Perform tape path alignment of section 5.

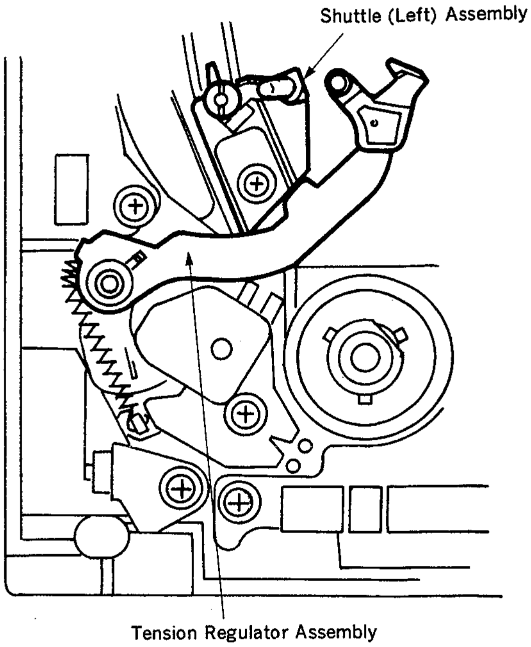

Shuttle (Left) Assembly
Tension Regulator Assembly

Fig. 3

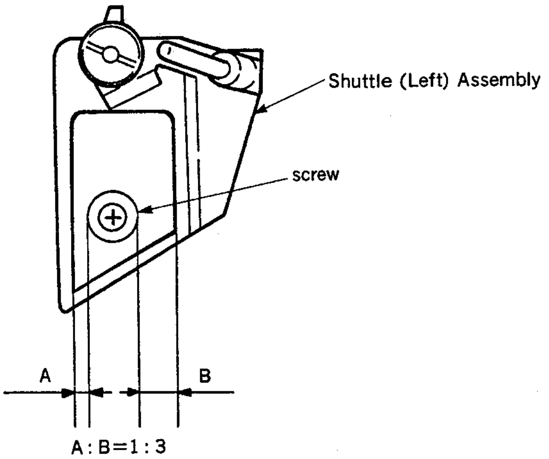

Shuttle (Left) Assembly
screw
A
B
A : B=1 : 3

Fig. 4

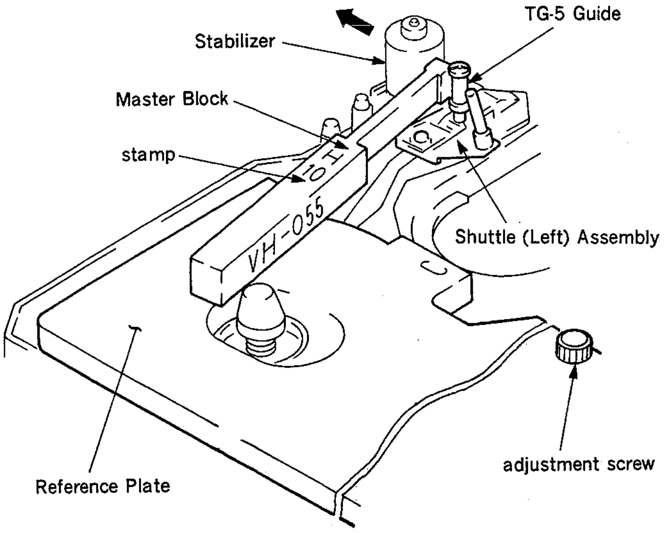

Stabilizer
TG-5 Guide
Master Block
stamp
VH-055
Shuttle (Left) Assembly
Reference Plate
adjustment screw

Fig. 5

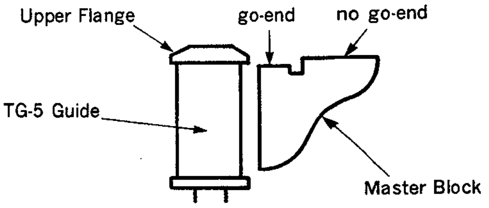

Upper Flange
go-end
no go-end
TG-5 Guide
Master Block

Fig. 6

Spec. :
The height of the upper flange must pass at the go-end of the master block and stop at the no go-end.

4-26. TG-5 GUIDE REPLACEMENT

Tools :

Reference plate (J-6380-080-A)
Master block (J06380-550-A)
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
Hex wrench screwdriver (width 0.89 mm)
Remote controller (RM-V100 or RM-V200)

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Loosen the set screw with a hex wrench. (Fig. 1)
(3) Rotate the TG-5 guide counterclockwise with the guide adjustment screwdriver, and remove it. (Fig. 1)

Note on installation

①Clean the mounting face of the reference plate and the four mounting faces on the chassis with cleaning fluid.
②Install the reference plate on the chassis. (Fig. 2) (If the reference plate moves about when the top of the plate is touched gently with the fingers at a point near where it is installed on the chassis, turn the adjustment screw until the plate no longer moves about.)
③Clean the top of the reference plate and the adjustment face of the master block with cleaning fluid.
④Set the master block with the H10 stamped mark upward, then place it against the TG-5 guide from the direction shown in the figure, and tighten the set screw untile the upper flange is roughly the same height as the go-end of the master block. (Figs. 2 and 3) (Tightening torque of set screw: $78\times10^{-3}\sim98\times10^{-3}$ N•m (0.8~1 kg•cm))

[**Adjustment after replacement**]

(1) Perform TG-5 guide height adjustment according to sub-section 4-25.
(2) Perform tape path alignment of section 5.

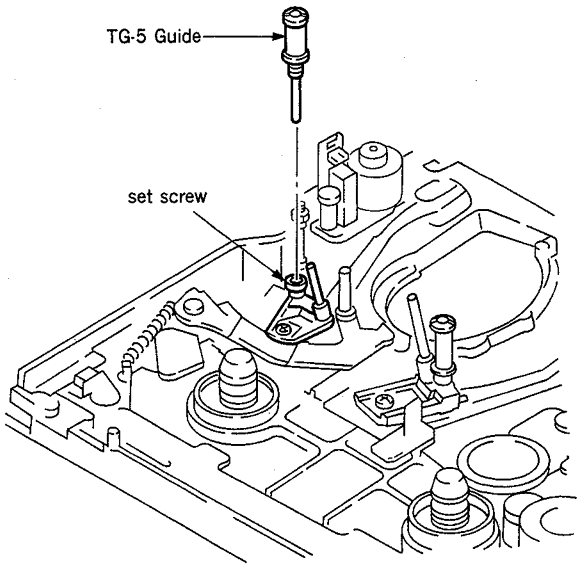


Fig. 1

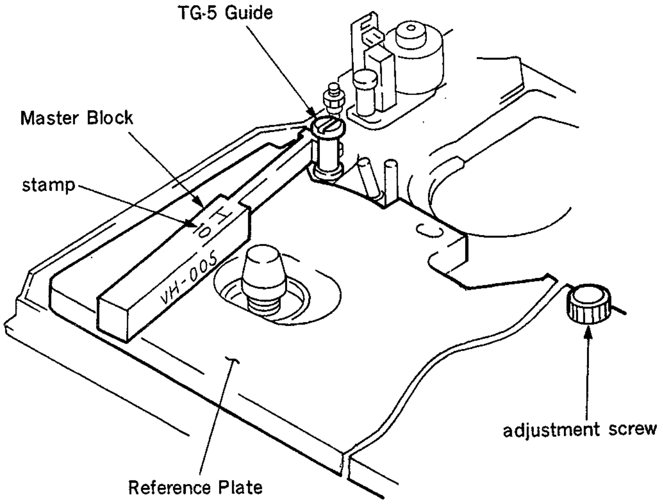


Fig. 2

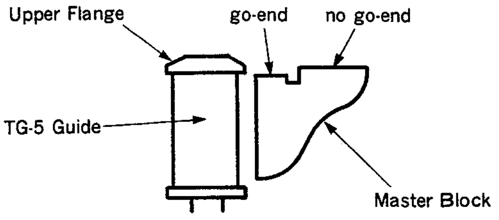


Fig. 3

4-27. SLIDE RAIL (R) REPLACEMENT

(1) Remove the cassette compartment according to sub-section 4-2.
(2) Remove the MC roller ass'y according to sub-section 4-3.
(3) Remove the shuttle (right) ass'y according to sub-section 4-23.
(4) Disconnect connectors CN655, CN656, CN657 and CN658 on the HN-198 board.
(5) Remove the screws and remove the HN-198 board.
(6) Remove the two screws, then remove the shuttle holder in the direction of arrow A. (Fig. 1)
(7) Remove claws **a**, **b** and **c** and also the two parts with the square hole on slide rail (R) from the chassis, then remove the slide rail (R). (Fig. 1)

Note on installation

①While moving the slide rail in the direction of arrow B, fit claw **a** into the chassis, then insert projection **a** into the hole in the chassis. (Fig. 1)

②Next, align projections **b** and **c** with the holes in the chassis, then insert claws **b** and **c** and also the two parts with the square holes into the chassis. (Figs. 2 and 3)

[**Adjustment after replacement**]

(1) Perform tape path alignment of section 5.

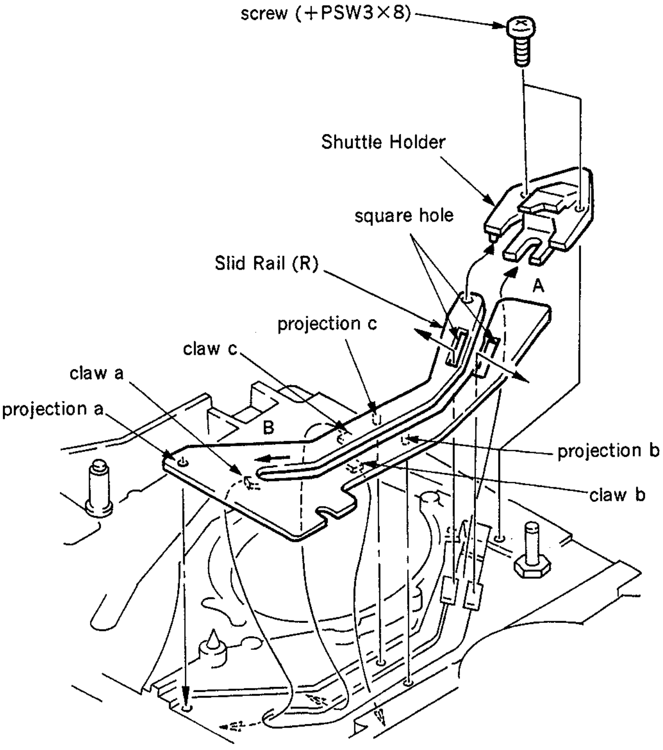

screw (+PSW3×8)
Shuttle Holder
square hole
Slid Rail (R)
A
projection c
claw c
claw a
projection a
B
projection b
claw b

Fig. 1

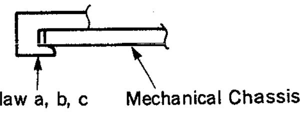

claw a, b, c
Mechanical Chassis

Fig. 2

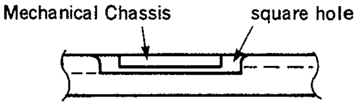

Mechanical Chassis
square hole

Fig. 3

4-28. SLIDE RAIL (L) REPLACEMENT

1. (1) Remove the cassette compartment according to sub-section 4-2.
2. (2) Remove the tension regulator ass'y and the STD ass'y according to sub-section 4-7.
3. (3) Remove the tape stabilizer ass'y according to sub-section 4-9.
4. (4) Remove the shuttle (left) ass'y according to sub-section 4-25.
5. (5) Remove the two screws, then remove the shuttle holder in the direction of arrow A. (Fig. 1)
6. (6) Remove claws **a**, **b** and **c** and the two parts with the square hole on slide rail (L) from the chassis, then remove the slide rail (L). (Fig. 1)

Note on installation

①While moving the slide rail in the direction of arrow B, fit claw **a** into the chassis, then insert projection **a** into the hole in the chassis. (Fig. 1)

②Next, align projections **b** and **c** with the holes in the chassis, then insert claws **b** and **c** and also the two parts with the square hole into the chassis. (Figs. 2 and 3)

[Adjustment after replacement]

1. (1) Adjust the height of the TG-3 guide once again according to sub-section 4-9.
2. (2) Adjust the position of the tension regulator once again according to sub-section 4-7.
3. (3) Adjust the tape tension once again according to sub-section 5-2.
4. (4) Perform tape path alignment of section 5.

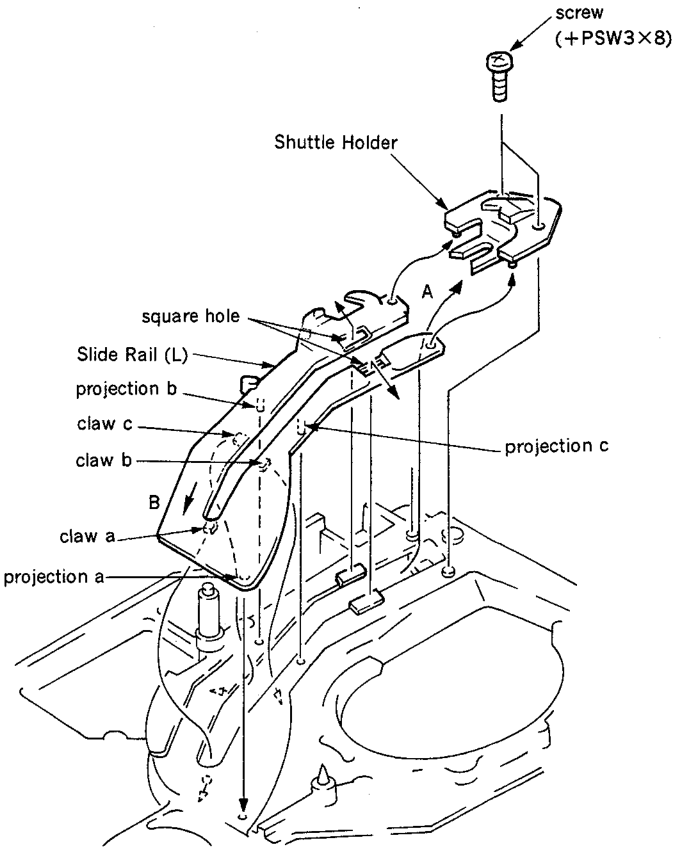

screw
(+PSW3×8)
Shuttle Holder
A
square hole
Slide Rail (L)
projection b
claw c
claw b
projection c
B
claw a
projection a

Fig. 1

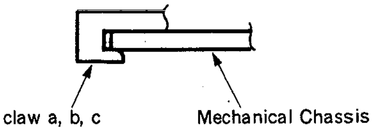

claw a, b, c
Mechanical Chassis

Fig. 2

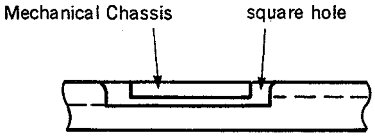
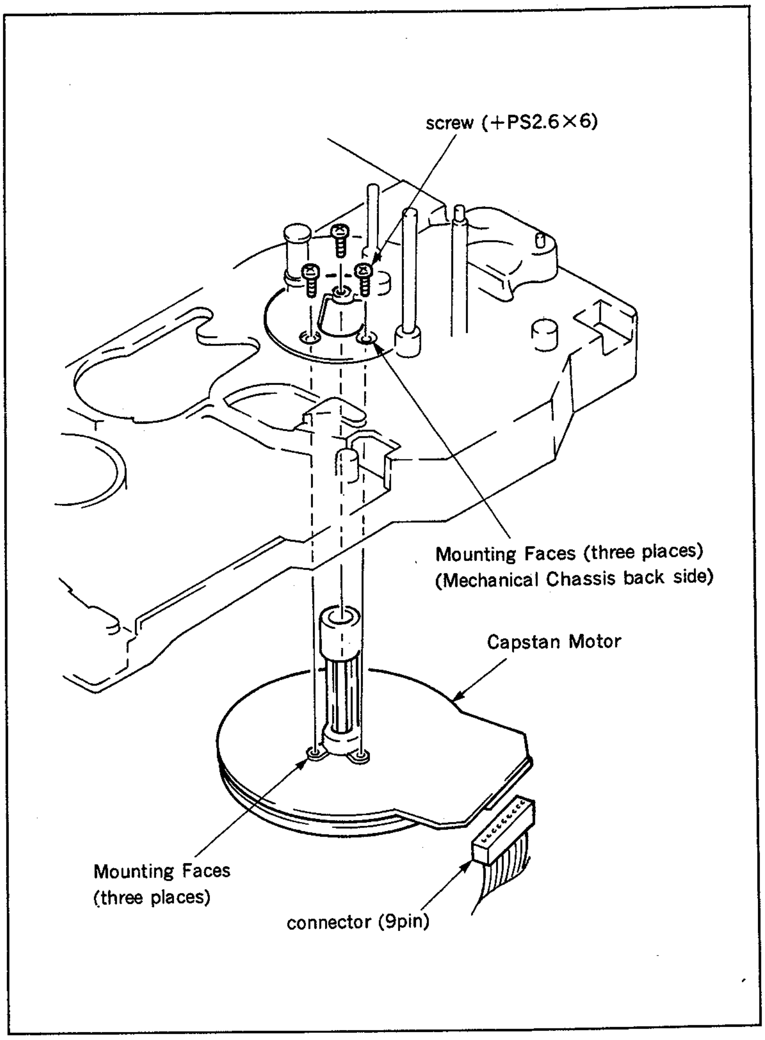

Mechanical Chassis
square hole

Fig. 3

4-29. CAPSTAN MOTOR REPLACEMENT

(1) Remove the drive gear ass'y according to subsection 4-19.
(2) Disconnect the 9-pin connector from the capstan motor board.
(3) Remove the three screws, then remove the capstan motor.



screw (+PS2.6×6)
Mounting Faces (three places) (Mechanical Chassis back side)
Capstan Motor
Mounting Faces (three places)
connector (9pin)

Note on installation

①Clean the three mounting faces at the back of the chassis and the three mounting faces of the capstan motor with cleaning fluid.
②Take care not to damage the capstan shaft.

[**Adjustment after replacement**]

(1) Perform tape path alignment of section 5.

SECTION 5
TAPE PATH ALIGNMENT

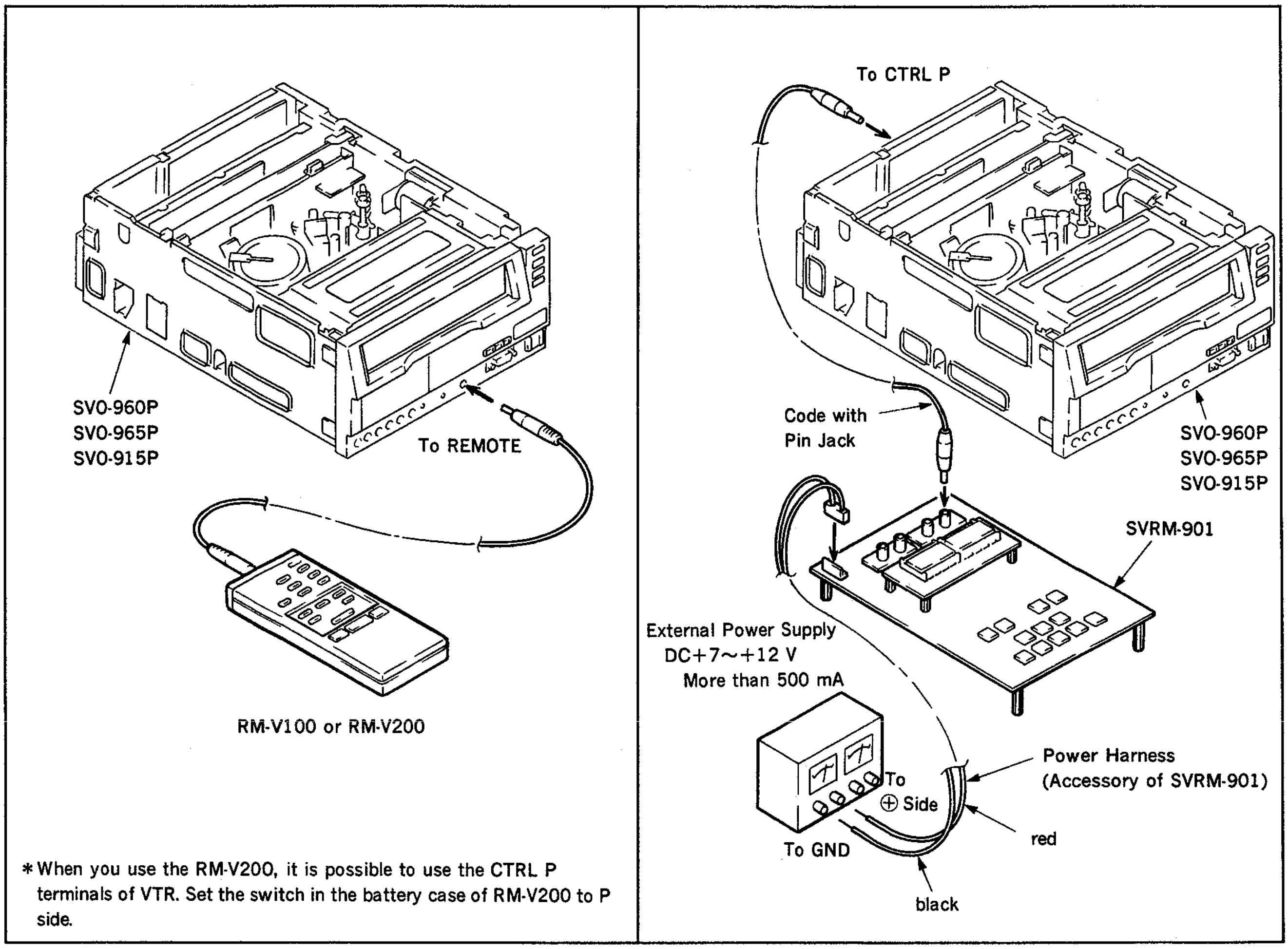
The tape run system has been adjusted before leaving the factory. If a part in the transport is replaced, therefore, the new part should be adjusted carefully to ensure that the tape transport is stable.
This section covers the entire adjustment procedure from coarse adjustment to fine adjustment.
Before commencing adjustment, remove the top panel and the U case of the VTR.

[Adjustment preparations]

1) Remote controller

There are no function keys on the front panel of this VTR.
Obtain remote controller RM-V100, RM-V200 or SVRM-901 to operate the VTR.

Connecting the remote controller

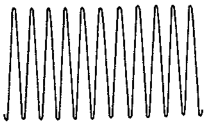
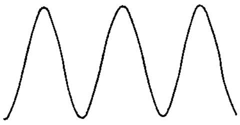

SVO-960P
SVO-965P
SVO-915P
To REMOTE
RM-V100 or RM-V200
To CTRL P
Code with
Pin Jack
SVO-960P
SVO-965P
SVO-915P
SVRM-901
External Power Supply
DC+7~+12 V
More than 500 mA
Power Harness
(Accessory of SVRM-901)
To
⊕ Side
red
To GND
black

* When you use the RM-V200, it is possible to use the CTRL P terminals of VTR. Set the switch in the battery case of RM-V200 to P side.

2) Equipment and tool

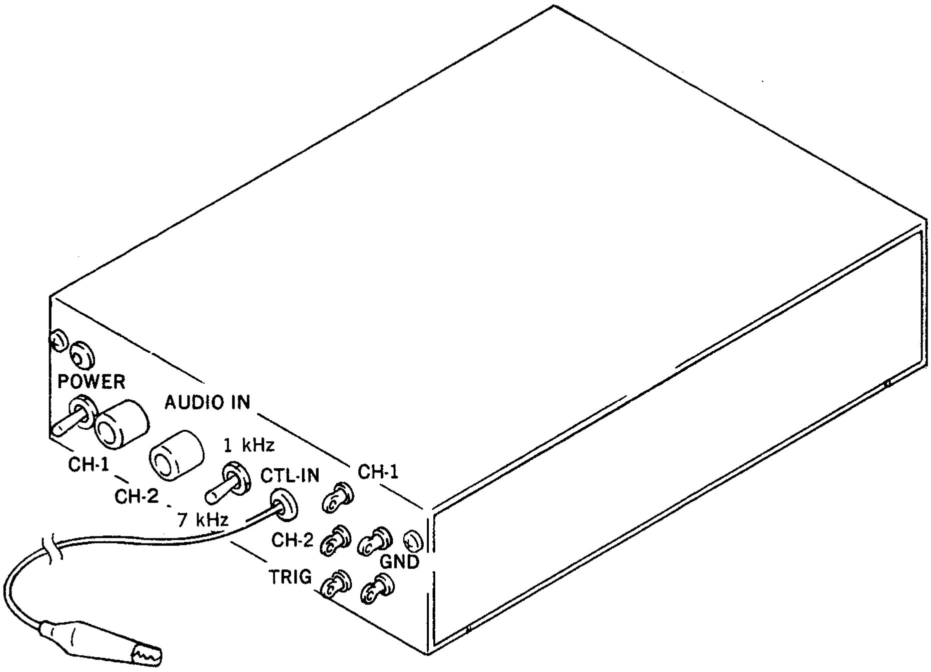
- Oscilloscope
- Digital voltmeter
- Tentelometer, T2-H7-UMC
- Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)
- Box screwdriver (5.5 mm) (7-700-751-02)
- Small adjustment mirror (J-6080-840-A)
- X value adjustment tool (J-6380-710-A)
- X value adjustment tool connecting cable (Must be provided by the service side.)
- VHS cassette tape, T-160 and T-120
- Alignment tape, KRV-23PS (8-192-602-17)
- Alignment tape, KRV-4821PSA (8-192-602-48)

Signals recorded on the alignment tape

Name (Part No.)	Recording Mode	Signals recorded on the tape	
		Video area	Audio area
KRV-23PS (8-192-602-17)	SP	• 3 MHz 170 min (Video signal is recorded to overlap part only.)	• Hi-Fi carrier 170 min 1.3 MHz } MIX 1.7 MHz } MIX
KRV-4821PSA (8-192-602-48)	SP	• 1 MHz (CH-1 only) } 120 min • 1 V blanking every 60 V } 120 min	• 7 kHz 120 min } MIX • 1 kHz 120 min } MIX 7 kHz  1 kHz 

X value adjustment tool

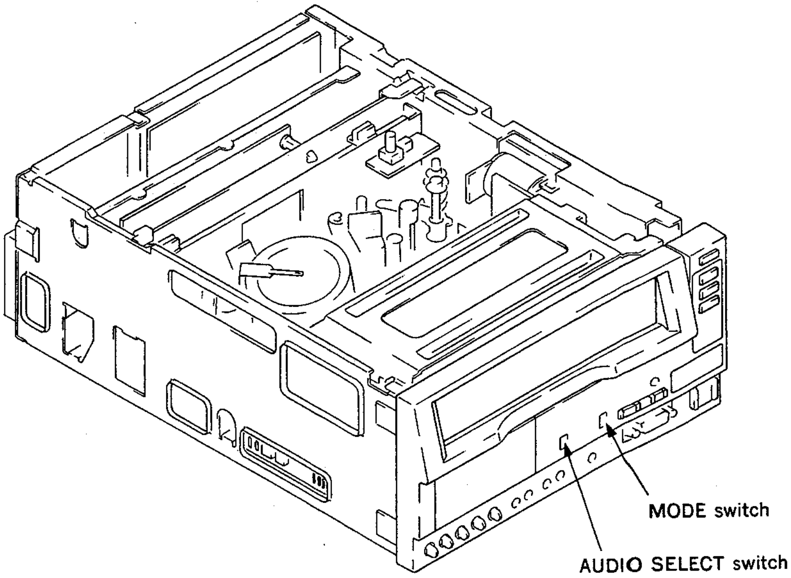
This tool is used when adjusting the height of the audio head, the azimuth, zenith, head-to-tape contact and the X value (position of audio head).
Power is supplied from two internal dry batteries (9 V).
When replacing the dry batteries, remove the four screws at the bottom, and open the bottom plate of the tool.
Note:
The batteries will run down quickly if the POWER switch of the tool is left switched ON.


POWER
AUDIO IN
CH-1
CH-2
1 kHz
7 kHz
CTL-IN
CH-1
CH-2
GND
TRIG

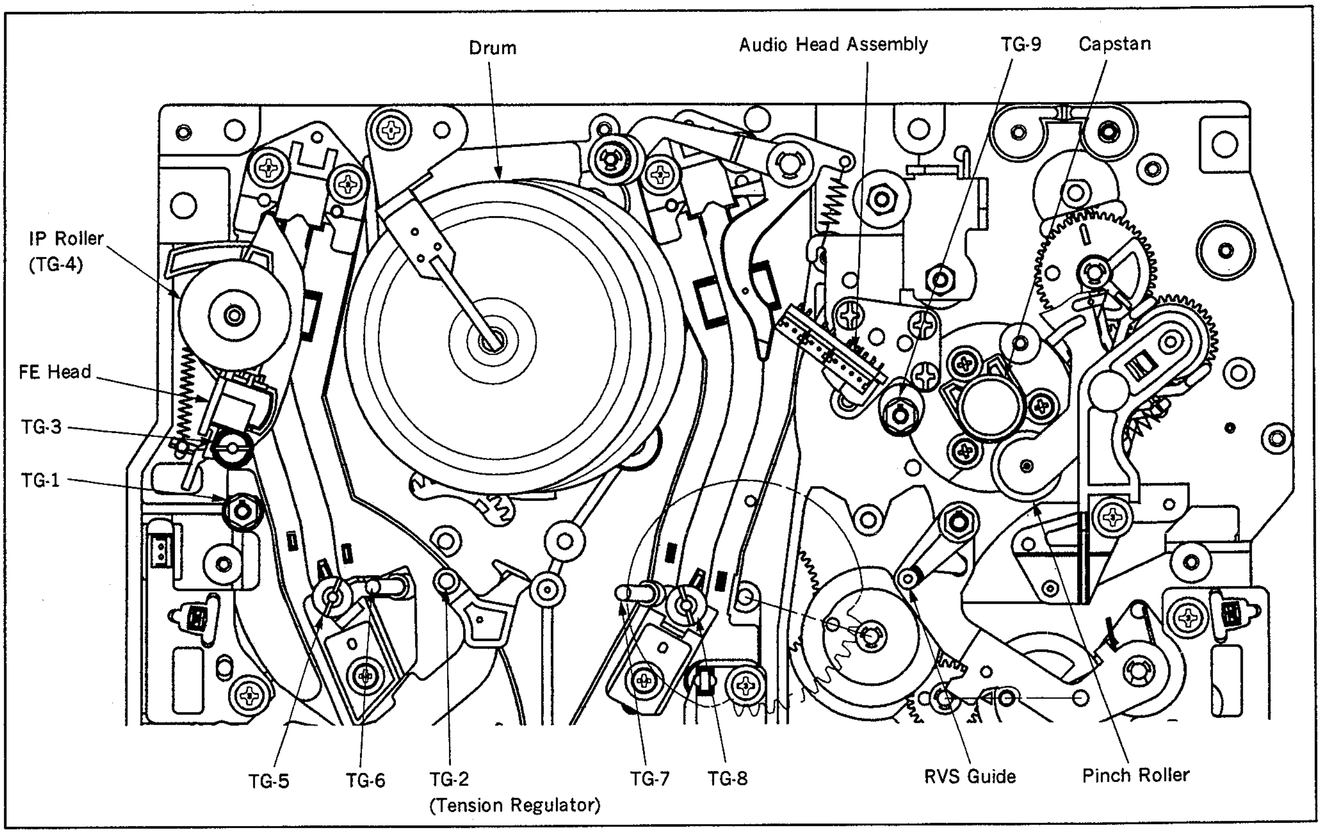
X value adjustment tool

3) **Switch setting**
Set the switches of the front panel and the sub panel as follow.

Select Switch	Setting Position
MODE	COUNTER
AUDIO SELECT	NORMAL

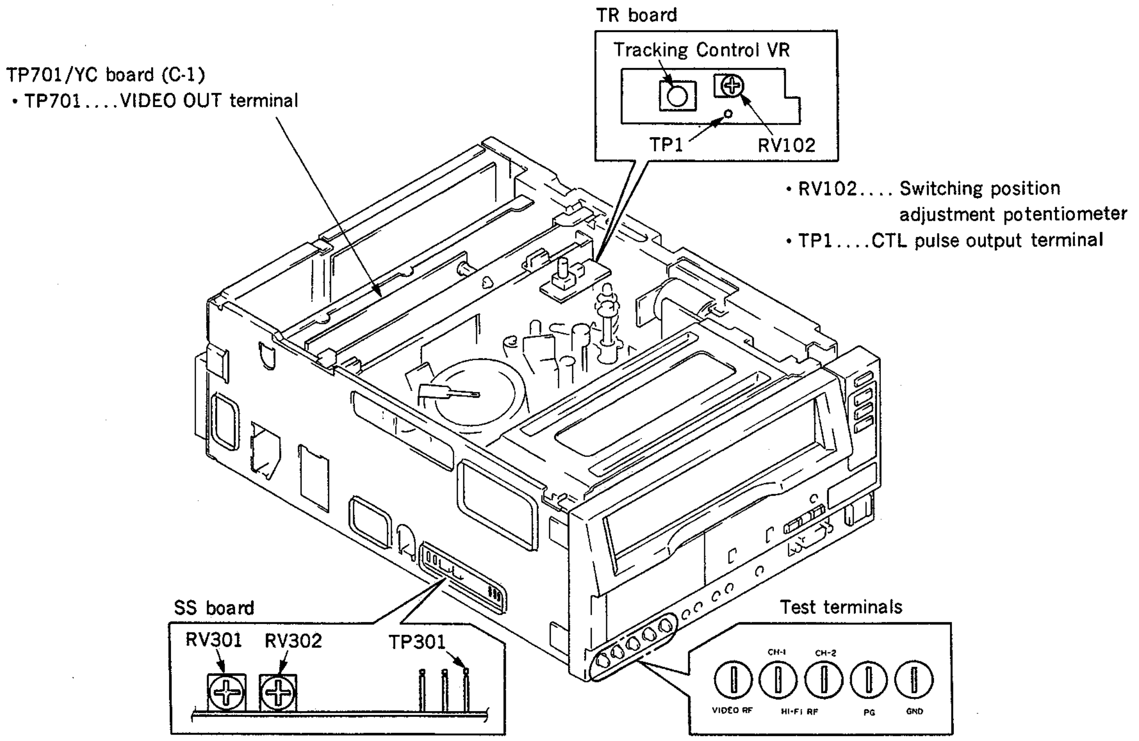

MODE switch
AUDIO SELECT switch

[**Tape guide layout drawing**]


Drum
Audio Head Assembly
TG-9
Capstan
IP Roller
(TG-4)
FE Head
TG-3
TG-1
TG-5
TG-6
TG-2
(Tension Regulator)
TG-7
TG-8
RVS Guide
Pinch Roller

[**Position of potentiometers and TP terminals**]

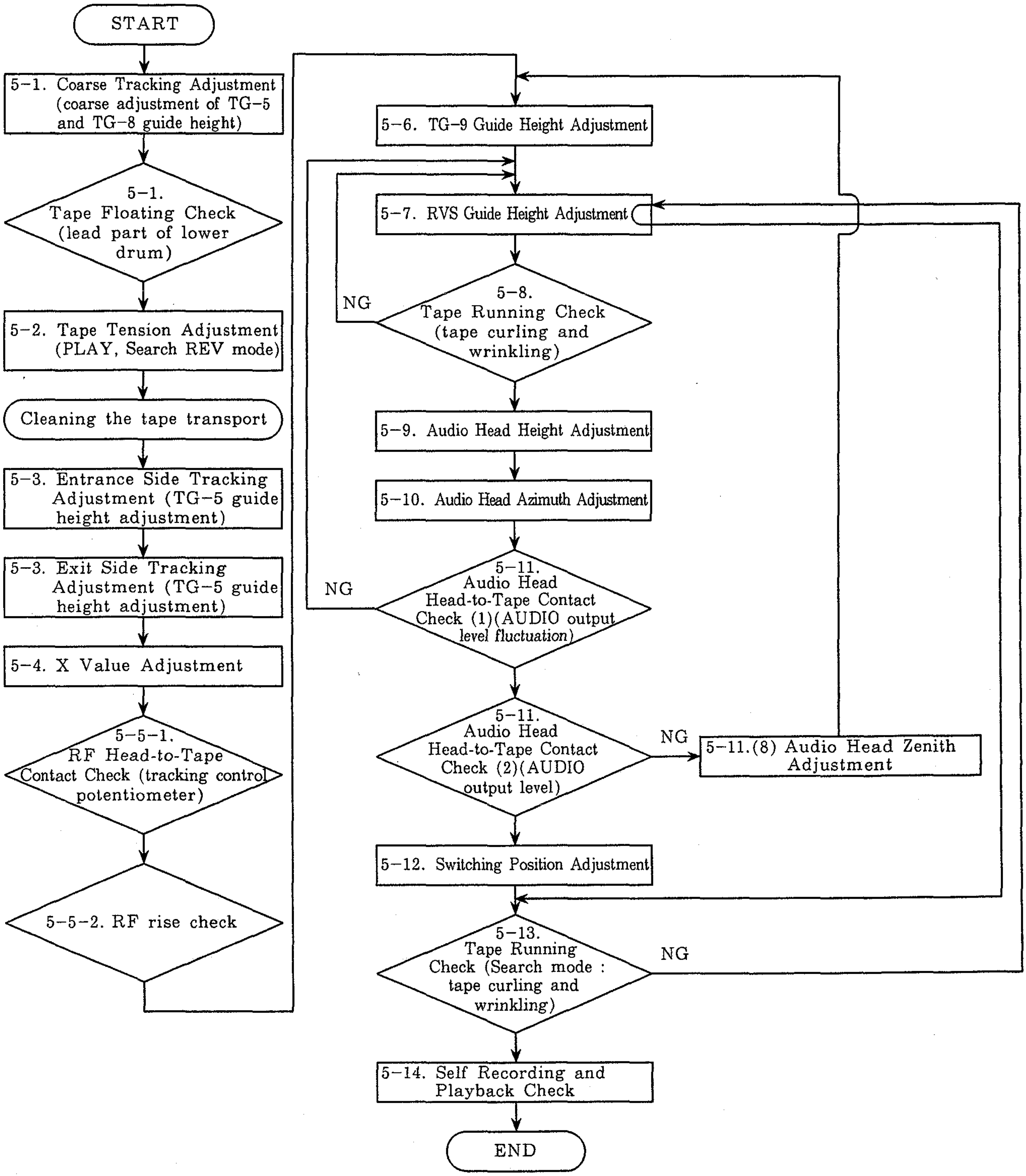
The positions of the adjustment potentiometers and TP terminals are shown in the figure below. (The figure below shows the VTR with the top panel and U case removed.)


TR board
Tracking Control VR
TP1
RV102
TP701/YC board (C-1)
SS board
RV301
RV302
TP301
Test terminals
CH-1
CH-2
VIDEO RF
HI-FI RF
PG
GND

- TP701....VIDEO OUT terminal
- RV102.... Switching position adjustment potentiometer
- TP1....CTL pulse output terminal

- RV301....Search REV mode tape tension adjustment potentiometer
- RV302....PLAY mode tape tension adjustment potentiometer
- TP301....Tension sensor output terminal

[**Adjustment Flow Chart**]


START
5−1. Coarse Tracking Adjustment (coarse adjustment of TG−5 and TG−8 guide height)
5−1. Tape Floating Check (lead part of lower drum)
5−2. Tape Tension Adjustment (PLAY, Search REV mode)
Cleaning the tape transport
5−3. Entrance Side Tracking Adjustment (TG−5 guide height adjustment)
5−3. Exit Side Tracking Adjustment (TG−5 guide height adjustment)
5−4. X Value Adjustment
5−5−1. RF Head-to-Tape Contact Check (tracking control potentiometer)
5−5−2. RF rise check
5−6. TG−9 Guide Height Adjustment
5−7. RVS Guide Height Adjustment
NG
5−8. Tape Running Check (tape curling and wrinkling)
5−9. Audio Head Height Adjustment
5−10. Audio Head Azimuth Adjustment
NG
5−11. Audio Head Head-to-Tape Contact Check (1)(AUDIO output level fluctuation)
5−11. Audio Head Head-to-Tape Contact Check (2)(AUDIO output level)
NG
5−11.(8) Audio Head Zenith Adjustment
5−12. Switching Position Adjustment
5−13. Tape Running Check (Search mode : tape curling and wrinkling)
NG
5−14. Self Recording and Playback Check
END

5-1. COARSE TRACKING ADJUSTMENT

Tools:

Oscilloscope
Alignment tape, KRV-4821PSA
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)

Adjustment Procedure:

(1) Connect the oscilloscope as follows.
CH-1 : VIDEO RF terminal/front panel
TRIG : PG terminal/front panel
GND : GND terminal/front panel

(2) Playback the color bar part of the alignment tape, and confirm that the RF of both channels is output.

(3) Turn the tracking control potentiometer on the TR board until the center part of the RF waveform is maximum. (Fig. 2)

(4) Turn the upper flange of the TG-5 guide until the RF waveform at the entrance side is virtually flat. (Fig. 3)

(5) Turn the upper flange of the TG-8 guide until the RF waveform at the exit side is virtually flat. (Fig. 4)

(6) Turn the tracking control potentiometer until the center part of the RF waveform is maximum.

(7) Push the center top part of the tape wrapped around the drum with a bamboo skewer, or the like, and confirm that the level change of the RF waveform meet the specification. (Fig. 5) (Fig. 6)

(8) Press the EJECT button, and remove the alignment tape.

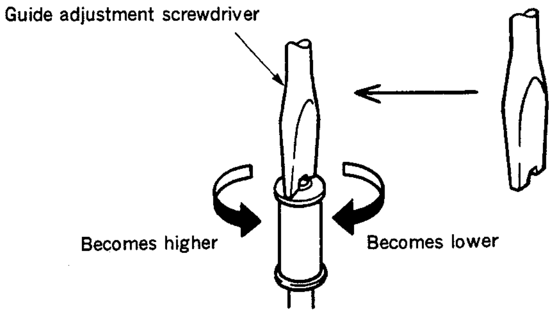

Guide adjustment screwdriver
Becomes higher
Becomes lower

Fig. 1 Tape Guide Adjustment Method.

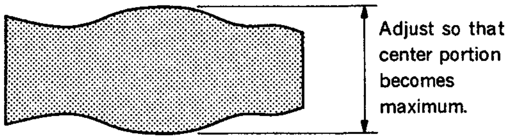

Adjust so that center portion becomes maximum.

Fig. 2

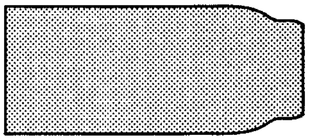


Fig. 3

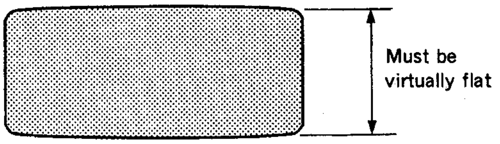

Must be virtually flat

Fig. 4

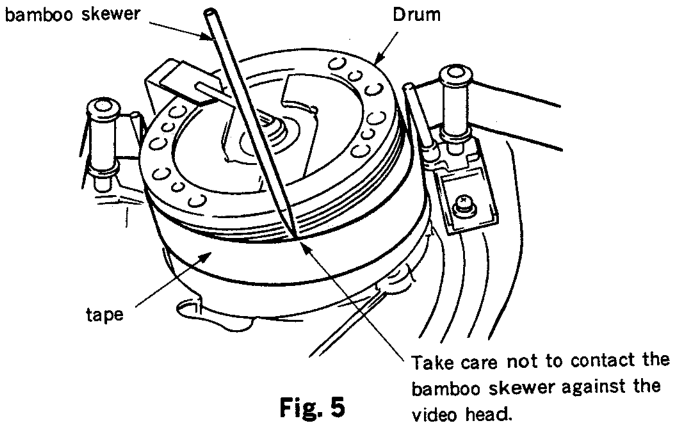

bamboo skewer
Drum
tape
Take care not to contact the bamboo skewer against the video head.

Fig. 5

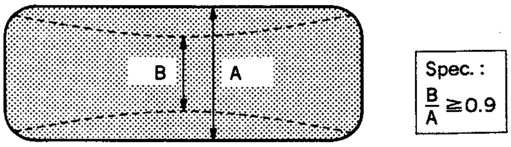

B
A
Spec. :
B/A ≧0.9

Fig. 6

5-2. TAPE TENSION ADJUSTMENT

Tools :

Tentelometer, T2-H7-UMC
Digital voltmeter
VHS cassette tape, T-120

Adjustment Procedure :

(1) To prevent the tape from touching the tentelometer, rotate the tape stabilizer in the direction of the arrow until it touches the chassis (left) with fingers. And then fix the IP roller in place. (Fig. 1)

(2) Insert a cassette tape (T-120) in the VTR, then put the VTR into the PLAY mode.

(3) Install the tentelometer between the TG-3 guide and the TG-5 guide. (Fig. 1)

(4) Adjust RV302 (SS board) so that the value on the tentelometer meet the required specification 1.

(5) Enter the Search REV mode.

(6) Adjust RV301 (SS board) so that the value on the tentelometer meet the required specification 2.

(7) Remove the tentelometer, then press the EJECT button and remove the cassette tape.

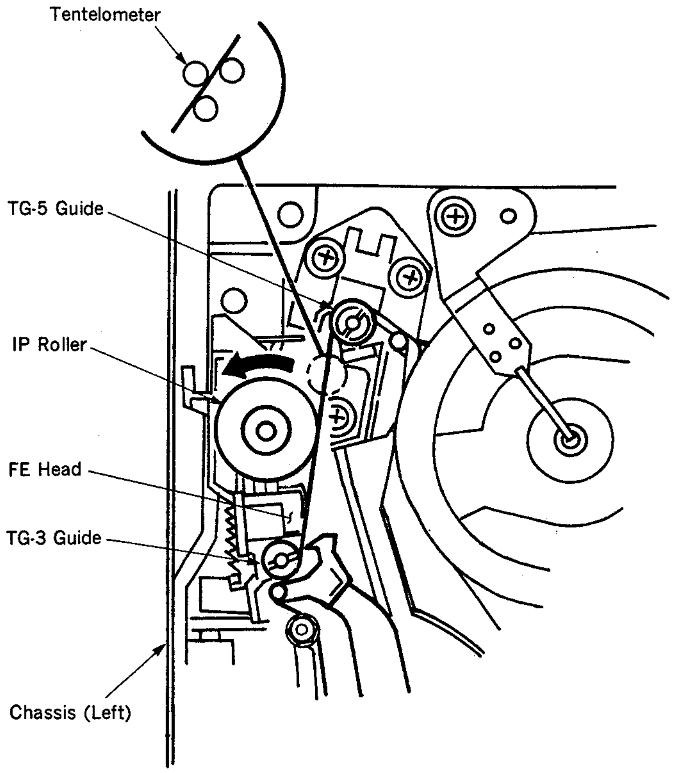


Fig. 1

Spec. 1 : Tape tension in the PLAY mode
$[245 \pm 25] \times 10^{-3}$ N (25±2.5 g)

Spec. 2 : Tape tension in the Search REV mode
$[392 \pm 25] \times 10^{-3}$ N (40±2.5 g)

5-3. TRACKING ADJUSTMENT

Tools:
Oscilloscope
Alignment tape, KRV-4821PSA
Guide adjustment screwdriver (J-6082-044-A or J-6080-811-A)

Cleaning prior to adjustment:
Clean the following parts with a cleaning piece moistened with cleaning fluid.

- TG-1 to TG-9 and RVS tape guide
- Audio head, FE head, capstan, pinch roller
- Rotary head, tape run face of upper and lower drums

[Note: Method of cleaning the rotary head]
Press the cleaning piece gently against the rotary head, then rotate the upper drum slowly in the counterclockwise direction with the fingers to clean the head.

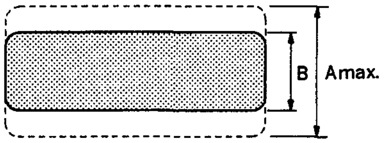
Adjustment Procedure:

(1) Connect the oscilloscope as follows.
CH-1: VIDEO RF terminal/front panel
TRIG: PG terminal/front panel
GND: GND terminal/front panel
(2) Playback the alignment tape.

Entrance side adjustment:

(3) Turn the tracking control potentiometer on the TR board until the RF waveform is 70 to 80% of maximum. (Fig. 1)
(4) Turn the upper flange of the TG-5 guide clockwise until the RF waveform at the left hand side is as shown in Fig. 2.
(5) Turn the upper flange on the TG-5 guide in the counterclockwise direction until the RF waveform at the left hand side is flat. (Fig. 3)
Note:
- Complete the height adjustment of TG-5 with the guide turned counterclockwise.

(6) Turn the tracking control potentiometer on the TR board counterclockwise until the RF waveform is 70 to 80% of maximum, then confirm that the RF waveform at the left hand side is virtually flat. (Fig. 4)



$$\frac{B}{\text{Amax.}}=0.7\sim0.8$$

Fig. 1

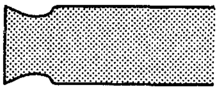


Fig. 2

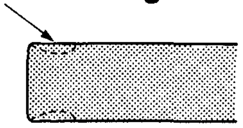
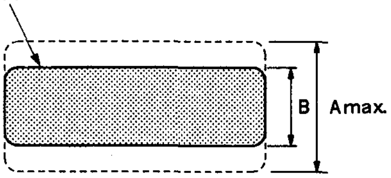


Fig. 3



Spec.:
RF waveform at entrance side must be virtually flat when $\frac{B}{\text{Amax.}}=0.7$ to 0.8.

Fig. 4

Exit side adjustment :

(7) Turn the tracking control potentiometer on the TR board until the RF waveform is 70 to 80% of maximum. (Fig. 1)

(8) Turn the upper flange of the TG-8 guide clockwise until the RF waveform on the right hand side is as shown in Fig. 5.

(9) Turn the upper flange of the TG-8 guide counterclockwise until the RF waveform on the right hand side is flat. (Fig. 6)
Note :
- Complete the height adjustment of TG-8 with the guide turned counterclockwise.

(10) Turn the tracking control potentiometer on the TR board counterclockwise until the RF waveform is 70 to 80% of maximum, then confirm that the RF waveform at the right hand side is virtually flat. (Fig. 7)

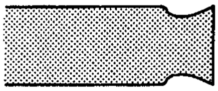


Fig. 5

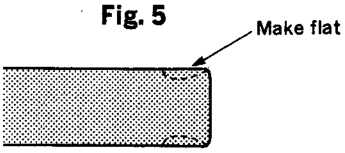
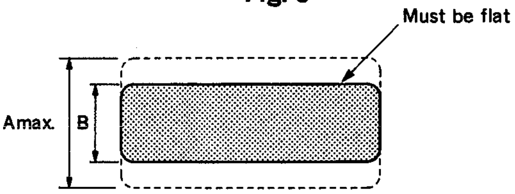


Fig. 6



Spec. :
RF waveform at exit side must be virtually flat when $\frac{B}{Amax.}$ =0.7 to 0.8.

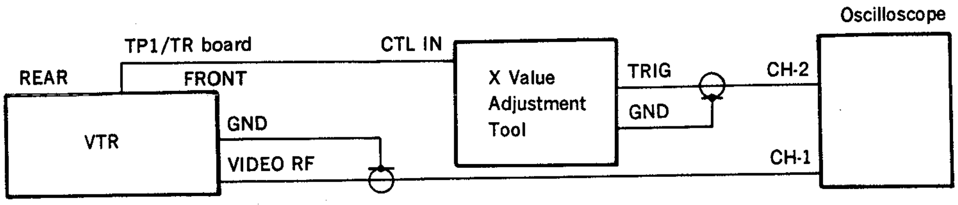
Fig. 7

5-4. X VALUE ADJUSTMENT (AUDIO HEAD POSITION ADJUSTMENT)

Tools :

Oscilloscope
X value adjustment tool (J-6380-710-A)
Alignment tape, KRV-4821PSA
Box screwdriver, 5.5 mm width
Connecting cable

Connecting the tool :



Change mode of oscilloscope from "TRIG MODE" to "NORM".

Adjustment Procedure :

(1) Playback the alignment tape.
(2) Turn the tracking control potentiometer on the TR board to the center click position.
(3) Turn the AC adjustment screw until the positions of the CTL waveform and RF waveform meet the specification 1. (Fig. 1 and Fig. 2)
(4) Change the connection to the oscilloscope as follows.
TRIG : PG terminal/front panel
(5) Turn the AC adjustment screw until the center of the RF waveform is the maximum level. Confirm that the RF waveform meet the specification 2. (Fig. 3)
(6) Turn the tracking control potentiometer on the TR board left and right, and confirm that the center of the RF waveform is the maximum level when the potentiometer is at the center click position. (specification 3)

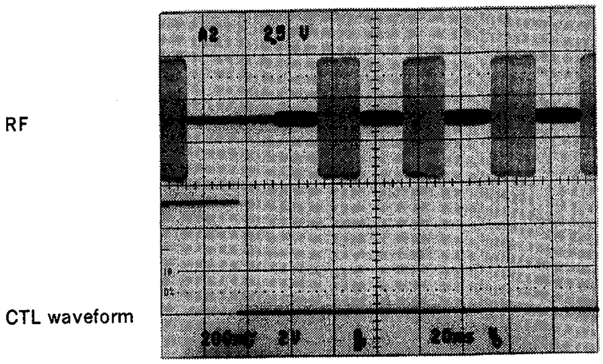


Fig. 2

Spec. 1 :
The point where the RF waveform has dropout must coincide with the falling edge of the CTL waveform.
If the RF waveform dropout point has shifted to the right at the CTL datum....Turn the AC adjustment screw counterclockwise.
If the RF waveform dropout point has shifted to the left at the CTL datum....Turn the AC adjustment screw clockwise.

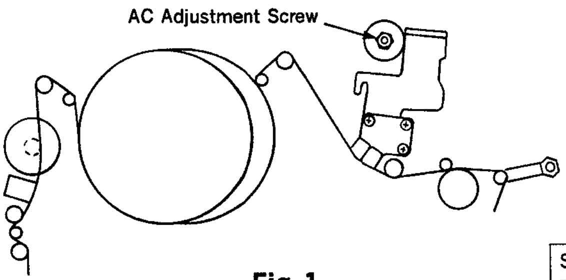
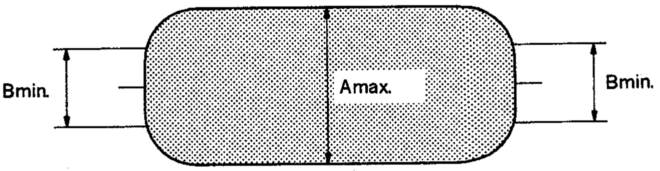


Fig. 1



Spec. 2 :
$\frac{\text{Bmin.}}{\text{Amax.}} \geqq 0.8$

Fig. 3

Spec. 3 :
The center part of the RF waveform must be the maximum level when the tracking control potentiometer is at the center click position.

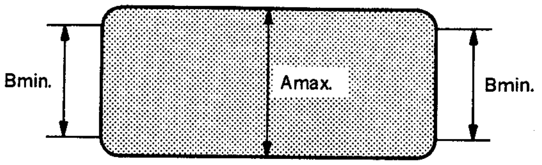
5-5. CHECKING AFTER TRACKING ADJUSTMENT

Tools:
Oscilloscope
Alignment tape, KRV-4821PSA

- Connect the oscilloscope as follows.
  CH-1 : VIDEO RF terminal/front panel
  CH-2 : PG terminal/front panel
  GND : GND terminal/front panel

5-5-1. RF head-to-tape contact check

(1) Playback the alignment tape.
(2) Turn the tracking control potentiometer on the TR board until the center of the RF waveform is maximum.
(3) Confirm that the RF waveform meet the specification.



Spec.:
$\frac{Bmin.}{Amax.} \geqq 0.8$

5-5-2. RF rise check

(1) Playback the alignment tape.
(2) Turn the tracking control potentiometer on the TR board until the center of the RF waveform becomes maximum.
(3) Put the VTR in each of the following modes in turn, and confirm that the rise time of the RF waveform meet the specification. (Fig. 1)
① Search REV → PLAY
② Search FWD → PLAY
③ STOP → PLAY
(4) Enter the Search REV mode, and confirm that there is no missing of the RF waveform at the entrance side. (Fig. 2)

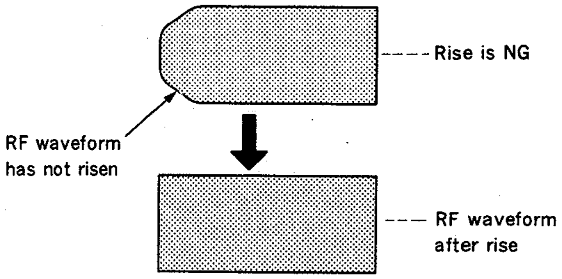


Fig. 1

Spec.:	RF rise time
① Search REV → PLAY	Within 3sec.
② Search FWD → PLAY	Within 3sec.
③ STOP → PLAY	Within 3sec.

- The rise time is the time from when the RF waveform appears on the oscilloscope.

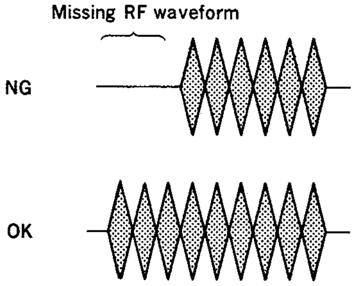
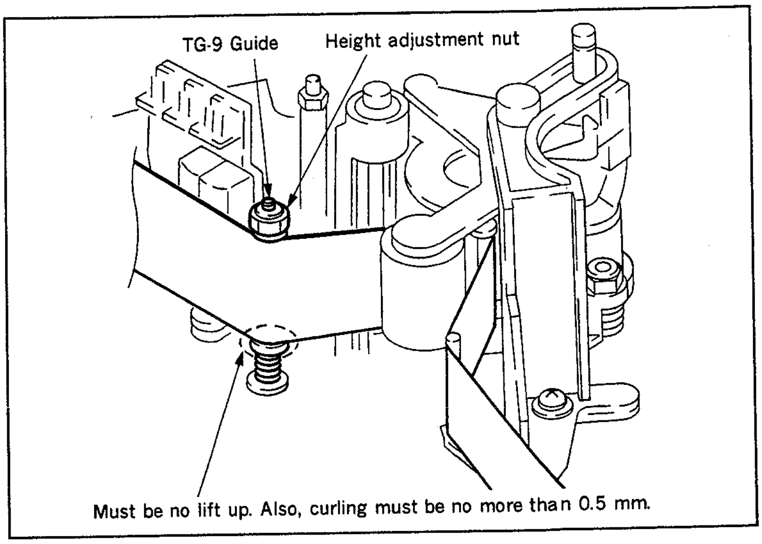


Fig. 2

5-6. TG-9 GUIDE HEIGHT ADJUSTMENT

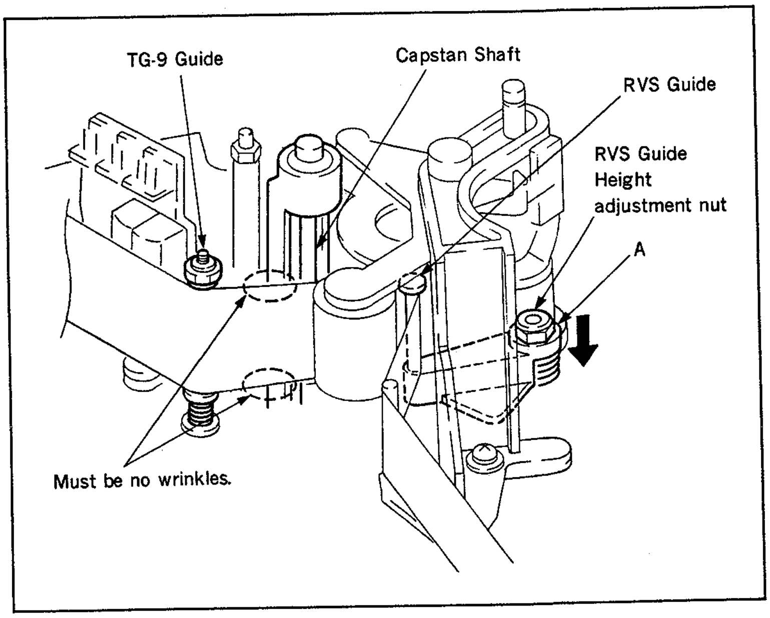

TG-9 Guide
Height adjustment nut
Must be no lift up. Also, curling must be no more than 0.5 mm.

Tool :
VHS cassette tape, T-160
Box screwdriver (5.5 mm)

Adjustment Procedure :

(1) Insert a cassette tape (T-160) in the VTR, then put the VTR in the PLAY mode.
(2) Turn the height adjustment nut of the TG-9 guide, and pass the tape along the lower flange.

5-7. RVS GUIDE HEIGHT ADJUSTMENT


TG-9 Guide
Capstan Shaft
RVS Guide
RVS Guide Height adjustment nut
A
Must be no wrinkles.

Tools :
VHS cassette tape, T-160
Box screwdriver, 5.5 mm width

Adjustment Procedure :

(1) Enter the Search REV mode using the first 15 minutes or less of the tape.
(2) Turn the RVS guide height adjustment nut until wrinkling of the tape between the TG-9 guide and the capstan shaft that occurs when the VTR is switched from the search REV mode to the search FWD mode, or vice-versa, disappears in less than 3 seconds.

Direction of adjustment of RVS guide height adjustment nut
If the wrinkling of the tape decreases when part A indicated in the figure (bottom of adjustment nut) is pressed in the direction of the arrow, turn the RVS guide height adjustment nut clockwise. If the wrinkling increases, turn the nut counterclockwise.

5-8. TAPE RUNNING CHECK (check to be performed subsequent to adjustments of sections 5-1 to 5-7)

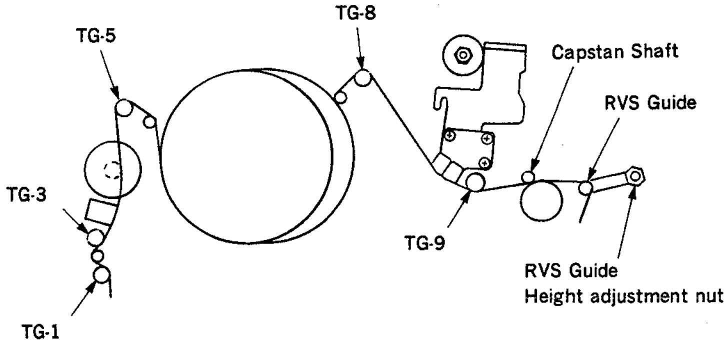
Tool:
VHS cassette tape, T-160

Checking Procedure:

(1) Insert a cassette tape (T-160) in the VTR.
(2) Confirm that the curling of the tape at the TG-1, TG-3, TG-5, TG-8 and TG-9 guides in both the Search FWD and Search REV modes meet the specification 1.
(3) Confirm that the wrinkling of the tape between the TG-9 guide and the capstan meet the specification 2 when the mode is switched from Search FWD to Search REV, and vice-versa.

If the specification 2 is not satisfied:

(4) Re-adjust the RVS guide height according to sub-section 5-7.
(5) Check steps (2) and (3).



Spec. 1:
TG-1, TG-3, TG-5, TG-8, TG-9 Guides ......Tape curling must be within 1mm.

Spec. 2:
Wrinkles on the tape between the TG-9 guide and the capstan shaft must disappear within 3 seconds.

5-9. AUDIO HEAD HEIGHT ADJUSTMENT

Tools :

Oscilloscope
X value adjustment tool (J-6380-710-A)
Alignment tape, KRV-4821PSA
Box screwdriver, 5.5 mm width
Connecting cables (two) (to be provided by the service side)....Fig. 1

Connecting the tool :

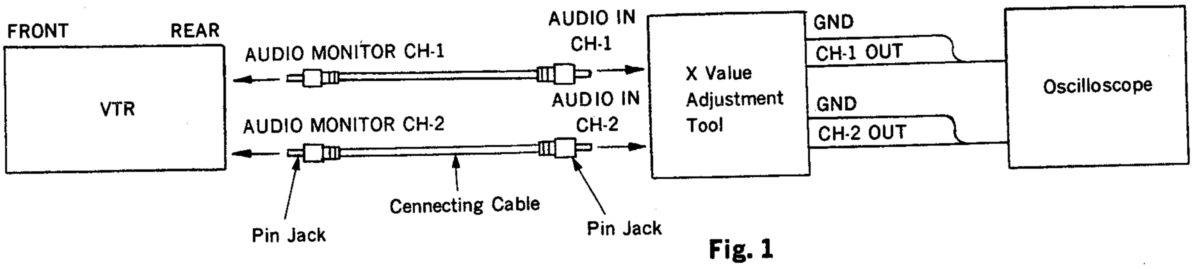

FRONT
REAR
VTR
AUDIO MONITOR CH-1
AUDIO MONITOR CH-2
AUDIO IN CH-1
AUDIO IN CH-2
X Value Adjustment Tool
GND
CH-1 OUT
GND
CH-2 OUT
Oscilloscope
Pin Jack
Cennecting Cable
Pin Jack

Fig. 1

Adjustment Procedure :

(1) Set the switch on the X value adjustment tool to the 1 kHz side.
(2) Turn the POWER switch of the X value adjustment tool ON.
(3) Playback the alignment tape.
(4) Turn the audio head height adjustment nut until the CH-1 output level is maximum.
Adjust the CH-1 upper edge to center line with oscilloscope adjustment volume. (Fig. 3)
(5) Turn the adjustment nut until the CH-2 output level is maximum.
Adjust the CH-2 lower edge to center line. (Fig. 2)
(6) Adjust finely the audio head height adjustment nut so that the CH-1 and CH-2 waveforms are maximum and meet the specification. (Fig. 4)
(7) Put the unit into the PLAY mode from REV mode. When the rising of output level is wrong, adjust finely the height of RVS guide.

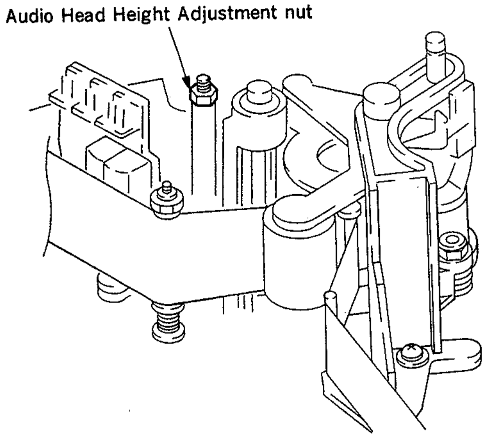

Audio Head Height Adjustment nut

Fig. 2

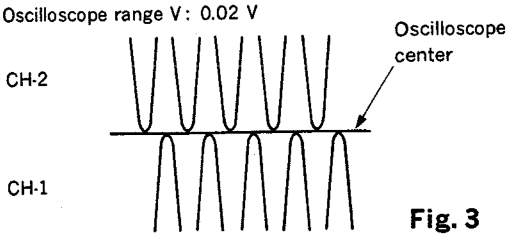

Oscilloscope range V: 0.02 V
CH-2
CH-1
Oscilloscope center

Fig. 3

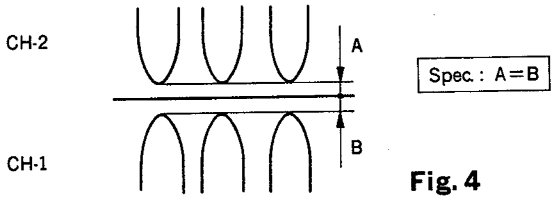

CH-2
CH-1
A
B
Spec. : A=B

Fig. 4

5-10. AUDIO HEAD AZIMUTH ADJUSTMENT

Tools:
Oscilloscope
X value adjustment tool (J-6380-710-A)
Alignment tape, KRV-4821PSA
Connecting cables (two) (See sub-section 5-9.)

Connecting the tool: Same as sub-section 5-9

Adjustment Procedure:

(1) Set the switch on the X value adjustment tool to the 7 kHz side.
(2) Playback the alignment tape.

Output level adjustment

(3) Turn the azimuth adjustment screw until the resurge waveform on the oscilloscope meet the specification 1. (Fig. 1, Fig. 2)

Azimuth adjustment

(4) Turn the azimuth adjustment screw until the resurge waveform on the oscilloscope meet the specification 2. (Fig. 2)
(5) Re-wind the tape about 5 seconds in the search REV mode and put the unit into the PLAY mode. Confirm the rising of the resurge waveform meets the spec. 3.

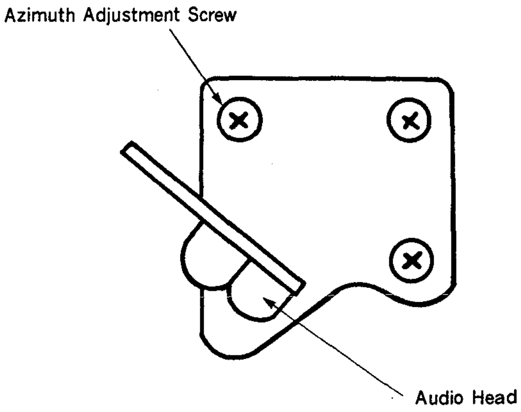
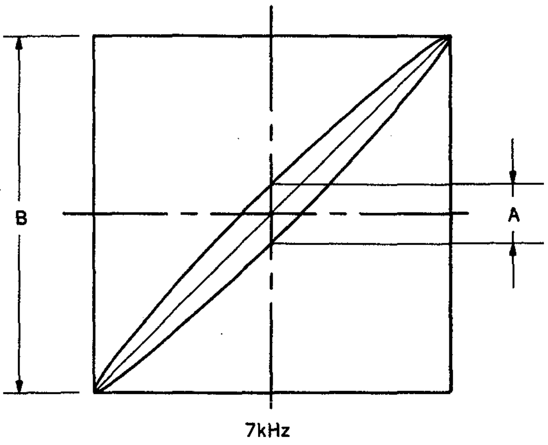


Fig. 1



- Oscilloscope:
  CH-1, CH-2: 10 mV/D
  MODE: X−Y

Fig. 2

Spec. 1:
B must be the maximum level.

Spec. 2:
A must be no more than 1 cm when level B is 6 cm.

Spec. 3:
When the unit is put into the PLAY mode from search REV mode, the resurge waveform rises within 3 seconds.

5-11. AUDIO HEAD HEAD-TO-TAPE CONTACT CHECK

Tools :
Oscilloscope
X value adjustment tool (J-6380-710-A)
Alignment tape KRV-4821PSA
Connecting cables (two) (See sub-section 5-9.)

Connecting the tool : Same as sub-section 5-9

Checking Procedure :
(1) Set the switch on the X value adjustment tool to the 7 KHz side.
(2) Playback the alignment tape.

Level fluctuation check
(3) Confirm that the level fluctuation of both CH-1 and CH-2 meet the specification. (Fig. 1)

If the specification is not satisfied :
(4) Turn the TG-9 guide counterclockwise and raise the lower flange. (Fig. 2) (Tape curling must be no more than 0.5 mm.)
(5) Re-adjust the height of RVS guide according to section 5-7.
(6) Check step (3).

Output level check
(7) Press the top of the tape (AUDIO track part) as indicated by the arrow gently with the tip of the finger, and confirm that the increase in level conforms to the specification for both CH-1 and CH-2. (Fig. 2 and Fig. 3)

If the specification is not satisfied :
(8) Turn the zenith adjustment screw of the audio head clockwise 90 degrees. (Fig. 4)
(9) Re-adjust the height of TG-9 according to sections 5-6.
(10) Check steps (3) and (7).

Level Fluctuation

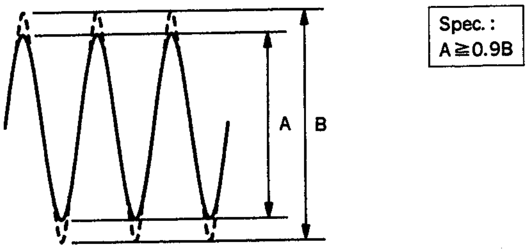


Fig. 1

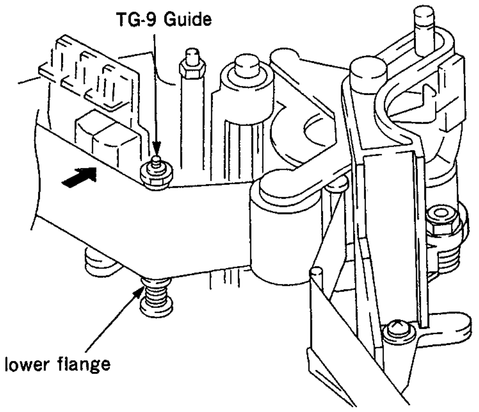
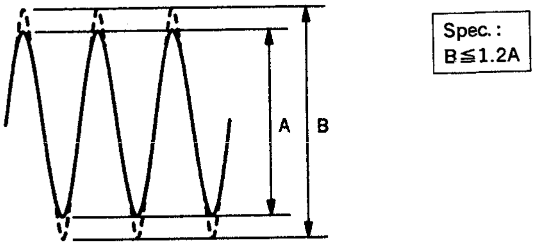


Fig. 2

Output Level



A : Initial level
B : Level when the tape is pressed with the finger.

Fig. 3

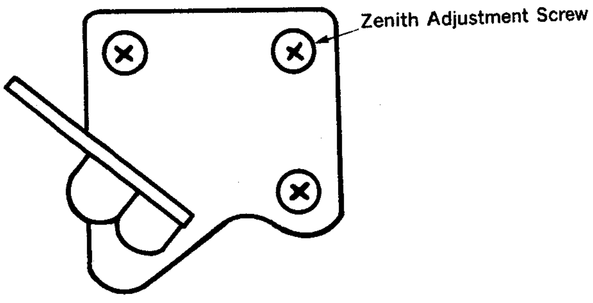


Fig. 4

5-12. SWITCHING POSITION ADJUSTMENT

Tools :

Oscilloscope

Alignment tape, KRV-23PS

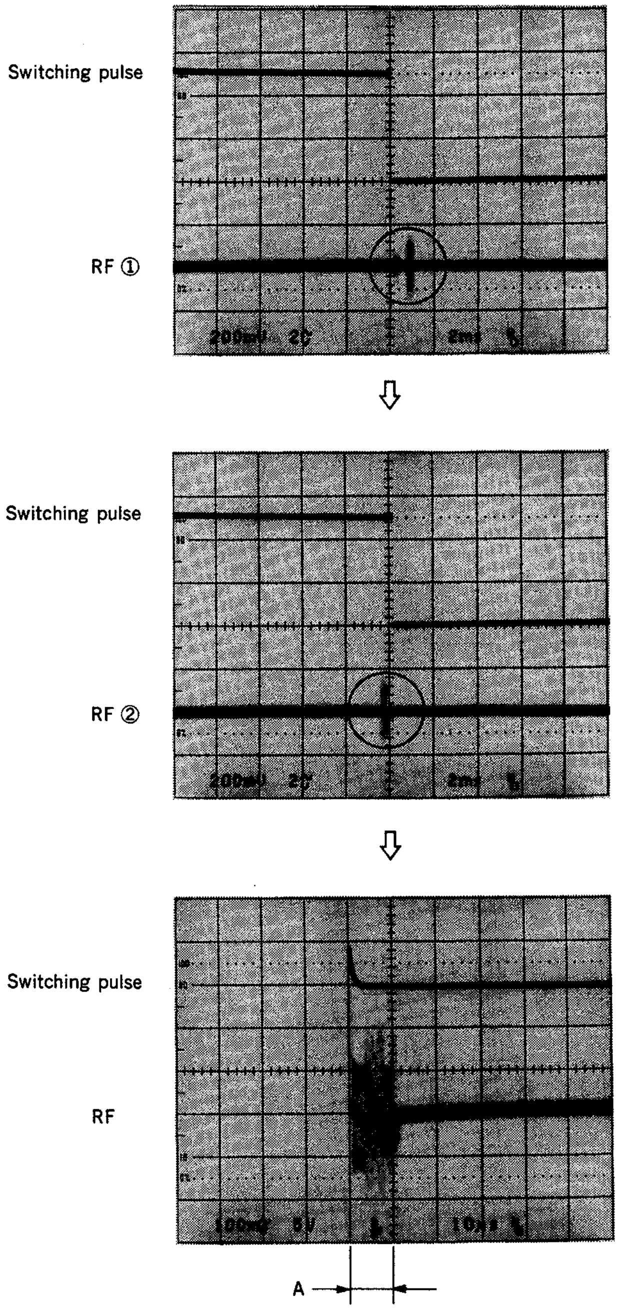
Adjustment Procedure :

(1) Connect the oscilloscope as follows.
    CH-1 : VIDEO RF terminal/front panel
    CH-2 : PG terminal/front panel
    GND : GND terminal/front panel

(2) Playback the alignment tape.

(3) Set the tracking control potentiometer on the TR board to the center click position.

(4) Turn RV102 on the TR board until the specification is satisfied.


Switching pulse
RF ①
200mV 2V 2ms
Switching pulse
RF ②
200mV 2V 2ms
Switching pulse
RF
100mV 5V 10µs
A

Spec. : A≦10 μs

5-13. TAPE RUNNING CHECK (check to be performed subsequent to 5-9 to 5-12)

Tool:

VHS cassette tape, T-160

Checking Procedure:

(1) Insert the cassette tape (T-160) into the VTR.

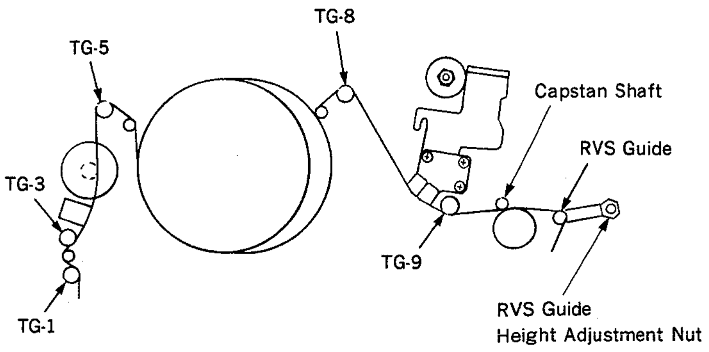
(2) Confirm that the degree of tape curling at the TG-8 and TG-9 guides meet the specification 1 when the VTR is put in the Search FWD mode and also the Search REV mode.

(3) Confirm that the degree of wrinkling of the tape between the TG-9 guide and the capstan meet the specification 2 when the mode is switched from Search FWD to Search REV, and vice-versa.

If specification 2 is not satisfied:

(4) Re-adjust the RVS guide height according to sub-section 5-7.

(5) Check steps (2) and (3).



Spec. 1:
TG-8, TG-9 Guide....Tape curling must be within 1mm.

Spec. 2:
Tape wrinkling between the TG-9 guide and the capstan shaft....Must disappear within 3 seconds.

5-14. SELF RECORDING/PLAYBACK CHECK

Tools :
Oscilloscope
VHS cassette tape, T-120

Checking Procedure :

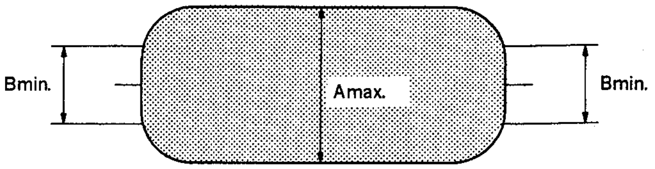
(1) Connect the oscilloscope as follows.
    CH-1 : VIDEO RF terminal/front panel
    TRIG : PG terminal/front panel
    GND : GND terminal/front panel

(2) Set the tracking control potentiometer on the TR board to the center click position.

(3) Perform recording under no-signal conditions using the center part of the cassette tape (T-120).

(4) Confirm that the playback RF waveform meet the specification. (Fig. 1)

(5) Once tape run adjustment has been completed, apply locking compound to the AC adjustment screw, and also the audio head azimuth and zenith adjustment screw. (Fig. 2)


Bmin.
Amax.
Bmin.

Spec. : $\frac{\text{Bmax.}}{\text{Amax.}} \geqq 0.7$

Fig. 1

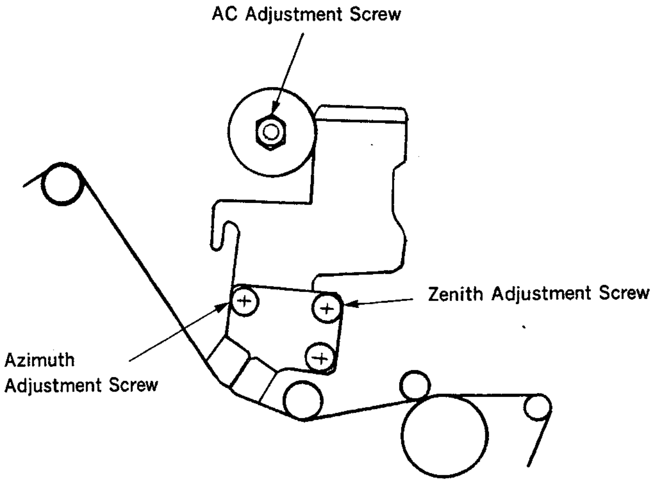

AC Adjustment Screw
Zenith Adjustment Screw
Azimuth Adjustment Screw

Fig. 2

SECTION 6
ELECTRICAL ALIGNMENT OVERVIEW

6-1. ADJUSTMENT COMPONENT INDEX

AU-190B/190C board		Page
RV2	RF PB AMP GAIN	7-4
RV101	CH-1 HI-FI PB LEVEL	7-5
RV102	CH-1 HI-FI DEV	7-5
RV103	1.3 MHz VCO	7-3
RV104	CH-1 HI-FI REF LEVEL	7-1
RV105	CH-1 LAU PB FREQ RESP	7-2
RV106	CH-1 LAU PB LEVEL	7-2
RV107	CH-1 LAU LEVEL	7-2
RV108	CH-1 LAU REC LEVEL	7-3
RV110	CH-1 LAU REF LEVEL	7-1
RV201	CH-2 HI-FI PB LEVEL	7-5
RV202	CH-2 HI-FI DEV	7-5
RV203	1.7 MHz VCO	7-3
RV204	CH-2 HI-FI REF LEVEL	7-1
RV205	CH-2 LAU PB FREQ RESP	7-2
RV206	CH-2 LAU PB LEVEL	7-2
RV207	CH-2 LAU LEVEL	7-2
RV208	CH-2 LAU REC LEVEL	7-3
RV210	CH-2 LAU REF LEVEL	7-1
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RV402	CH-2 LAU BIAS	7-2 7-3
RV403	CH-1 LAU BIAS FINE	7-2 7-3
RV404	CH-2 LAU BIAS FINE	7-2 7-3

RP-77 board		Page
RV1	Hi-Fi REC CURRENT	7-4

VO-48/48A board		Page
CV301	4.43 MHz	8-5
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RV103	PB LEVEL	8-3
RV104	PB Y PHASE	8-7
RV105	REC Y LEVEL	8-6
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RV108	FM DEVIATION	8-4
RV109	CARRIER SET	8-4
RV110	DARK CLIP	8-2
RV111	WHITE CLIP	8-2
RV301	PB C PHASE	8-7
RV302	REC C LEVEL	8-6
RV303	PB C LEVEL	8-3

DL-44 board		Page
RV106	DOC	8-5

6-2. EQUIPMENT USED FOR ELECTRICAL ALIGNMENT

It is recommended to use either the equipment described below or equivalents as measure equipment and signal generator.

[Equipment Required]

- Oscilloscope (TEKTRONIX 2445B/150 MHz or more)
- Audio Attenuator
- Audio Level Meter (HEWLETT PACKARD HP3400)
- Frequency Counter (ADVANTEST TR5821AK)

[Signal Generator]

- Signal Generator (TEKTRONIX 1411, TSG-131 or equivalent)
- Audio Signal Generator (HEWLETT PACKARD HP8904)

[Tool]

- Alignment Tape
  KRV-31PS (SONY Part No. 8-192-603-16)
  KRV-35PF (SONY Part No. 8-192-603-56)
  KRV-39PF (SONY Part No. 8-192-603-96)
- Blank Tape
  VHS Tape (GR-120KG: SONY Part No. 8-896-024-94)

6-3. ELECTRICAL ADJUSTMENT ASSOCIATED WITH INSPECTION AND MAINTENANCE

6-3-1. Adjustment for Drum Ass'y or Upper Drum Ass'y Replacement

7-10. Hi-Fi Audio PB RF Level Adjustment
7-11. Hi-Fi Audio REC Current Adjustment
7-12. Hi-Fi Audio Overall RF Level Check
8-15. Overall Y/C Delay Adjustment

6-3-2. Adjustment for Audio Head Ass'y Replacement

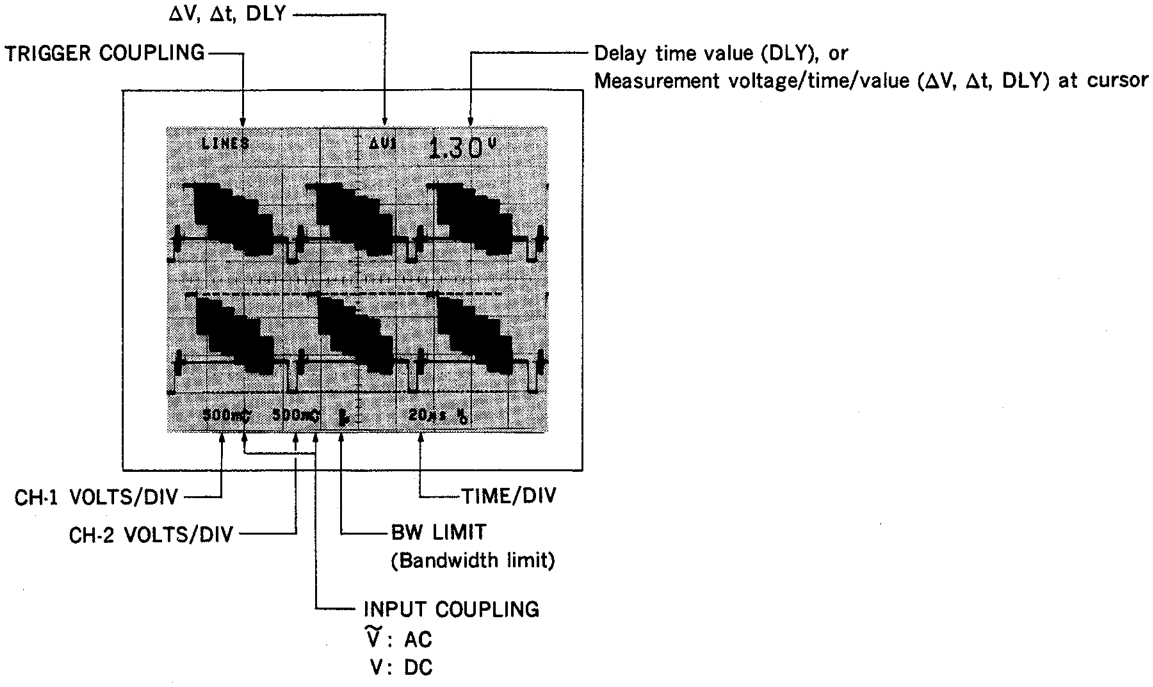
7-4. Normal Audio PB Frequency Response Adjustment
7-5. Normal Audio PB LEVEL Adjustment
7-7. Normal Audio Overall Frequency Response Adjustment

6-4. SETTING OF EQUIPMENT REQUIRED FOR ELECTRICAL ALIGNMENT

Oscilloscope

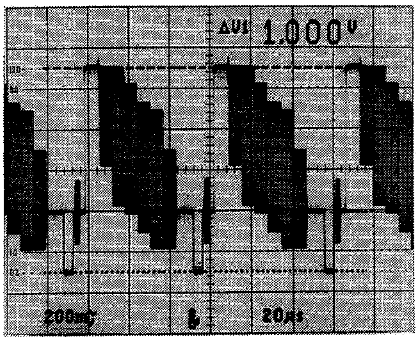
- With waveform photograph used for waveform display:

  The setting conditions are displayed on the photograph as given below.

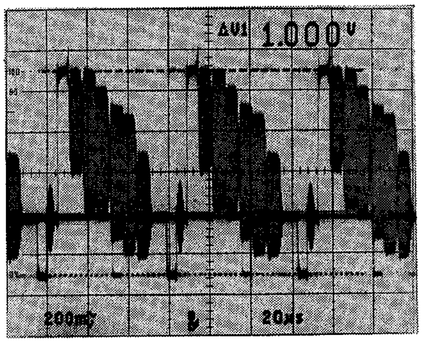

ΔV, Δt, DLY
TRIGGER COUPLING
Delay time value (DLY), or
Measurement voltage/time/value (ΔV, Δt, DLY) at cursor
LINE
ΔV1
1.30V
500mV
500mV
20μs
CH-1 VOLTS/DIV
CH-2 VOLTS/DIV
TIME/DIV
BW LIMIT
(Bandwidth limit)
INPUT COUPLING
Ṽ: AC
V: DC

6-5. TEST SIGNAL FOR VIDEO SYSTEM

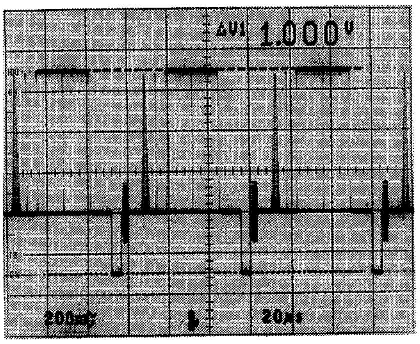
1. 75% COLOR BARS



2. KRV-35PF



3. PULSE & BAR



SECTION 7
AUDIO SYSTEM ALIGNMENT

[Equipment Required]

- Oscilloscope (TEKTRONIX 2445B/150 MHz or more)
- Audio signal generator (HEWLETT PACKARD HP8904)
- Audio attenuator
- Audio level meter (HEWLETT PACKARD HP3400)
- Frequency counter (ADVANTEST TR5821AK)
- Alignment tape

Name (Parts No.)	REC Mode	Contents		
		Video Area	**Normal Audio Area**	**Hi-Fi Audio Area**
Normal Alignment Tape KRV-31PS (8-192-603-16)	SP	• None	• 400 Hz, 0 VU, 15 s • 7 kHz, 0 VU, 15 s (Recorded sequentialy)	• None
Hi-Fi Alignment Tape KRV-35PF (8-192-603-56)	SP	• Color bars	• 400 Hz, 0 VU	• 400 Hz, 0 VU
Hi-Fi RF Level Alignment Tape KRV-39PF (8-192-603-96)	SP	• None	• None	• No Audio Signal (1.4 MHz Hi-Fi carrier)

〈Note〉 When putting the VTR into REC mode, supply color bar signal to VIDEO IN connector unless otherwise specified.

[Setting of switch (Rear Panel)]

SEPARATE/THROUGH Switch: THROUGH mode

[Setting of Audio Level Controller]

Turn CH-1 and CH-2 Audio Level Controller of Hi-Fi and NORMAL on front panel to center click position.

〈Note〉 After setting, do not turn the level controllers.

7-1. Hi-Fi AUDIO EE LINE OUT LEVEL ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: Hi-Fi • STOP mode	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu	⊘ CH-1: RV104 /AU-190B/190C (C-1) ⊘ CH-2: RV204 /AU-190B/190C (C-2)

7-2. DOLBY NR LEVEL (NORMAL AUDIO) ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • STOP mode	CH-1: TP108/AU-190/A (G-3) CH-2: TP208/AU-190/A (E-1) −10±0.3 dBu	⊘ CH-1: RV110 /AU-190B/190C (H-1) ⊘ CH-2: RV210 /AU-190B/190C (G-1)

7-3. NORMAL AUDIO EE LINE OUT LEVEL ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: NORMAL • STOP mode	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu	⊘ CH-1: RV107 /AU-190B/190C (J-1) ⊘ CH-2: RV207 /AU-190B/190C (G-1)

7-4. NORMAL AUDIO PB FREQUENCY RESPONSE ADJUSTMENT

<table>
<tr><th>Machine condition for adjustment</th><th>Specifications</th><th>Adjustments</th></tr>
<tr><td>• AUDIO OUT SELECT switch: NORMAL
• Play back the alignment tape, KRV-31NS</td><td>CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ)
CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ)
<table>
<tr><th>Frequency</th><th>Level</th></tr>
<tr><td>400 Hz</td><td>Reference</td></tr>
<tr><td>7 kHz</td><td>Reference±0.5 dB</td></tr>
</table></td><td>⊘ CH-1: RV105 /AU-190B/190C (K-3)
⊘ CH-2: RV205 /AU-190B/190C (I-3)</td></tr>
</table>

7-5. NORMAL AUDIO PB LEVEL ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• AUDIO OUT SELECT switch: NORMAL • Play back 400 Hz portion of the alignment tape, KRV-31NS	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu	⊘ CH-1: RV106 /AU-190B/190C (J-2) ⊘ CH-2: RV206 /AU-190B/190C (I-3)

7-6. NORMAL AUDIO BIAS CURRENT PRE-ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: no signal • REC mode	CH-1: Turn RV403 to mechanical center position. CH-2: Turn RV404 to mechanical center position.	⊘ CH-1: RV403 /AU-190B/190C (L-4) ⊘ CH-2: RV404 /AU-190B/190C (K-4)
	CH-1: TP105/AU-190/190A (K-2) GND: TP104/AU-190/190A (K-2) CH-2: TP205/AU-190/190A (I-2) GND: TP204/AU-190/190A (I-2) 5.0±0.2 mV	⊘ CH-1: RV401 /AU-190B/190C (L-3) ⊘ CH-2: RV402 /AU-190B/190C (K-3)

7-7. NORMAL AUDIO OVERALL FREQUENCY RESPONSE ADJUSTMENT

<table>
<tr><th>Machine condition for adjustment</th><th>Specifications</th><th>Adjustments</th></tr>
<tr>
<td>• CH-1, 2 AUDIO IN: 1 kHz, 10 kHz −20 dBu
• AUDIO OUT SELECT switch: NORMAL
• Perform the self-recording/play back with a cassette tape.</td>
<td>CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ)
CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ)
<table>
<tr><th>Frequency</th><th>Level</th></tr>
<tr><td>1 kHz</td><td>Reference</td></tr>
<tr><td>10 kHz</td><td>Reference±0.5 dB</td></tr>
</table>
</td>
<td>⊘ CH-1: RV401 /AU-190B/190C (L-3)
⊘ CH-2: RV402 /AU-190B/190C (K-3)
If the specification is not satisfied by RV401 and RV402.
⊘ CH-1: RV403 /AU-190B/190C (L-4)
⊘ CH-2: RV404 /AU-190B/190C (K-4)</td>
</tr>
</table>

7-8. NORMAL AUDIO OVERALL LEVEL ADJUSTMENT

Step 1.

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: NORMAL • Perform the self-recording/play back with a cassette tape.	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu 〈Note〉 If the specification is not satisfied, note the measurement value, perform the adjustment of the Step 2.	

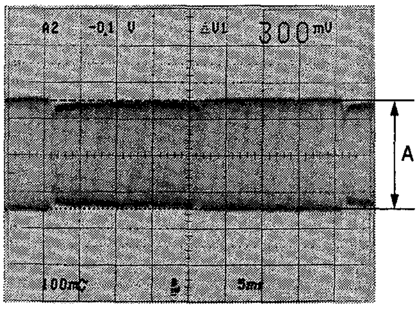
Step 2.

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: NORMAL • REC mode or STOP mode	CH-1: TP110/AU-190/190A (K-2) CH-2: TP210/AU-190/190A (I-2) Compensate the difference between the specification and the measurement value. (After compensation, perform the Step 1.)	⊘ CH-1: RV108 /AU-190B/190C (H-1) ⊘ CH-2: RV208 /AU-190B/190C (G-1)

7-9. Hi-Fi AUDIO CARRIER FREQUENCY ADJUSTMENT

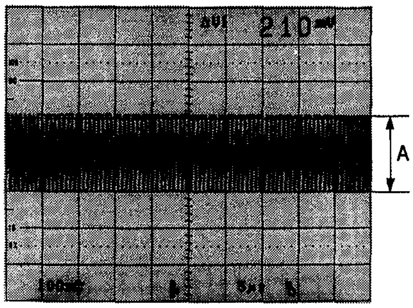
Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: no signal • REC mode or STOP mode	TP5/AU-190/190A (B-2) 1.4±0.005 MHz	⊘ RV103/AU-190B/190C (B-1)
	TP6/AU-190/190A (B-2) 1.8±0.005 MHz	⊘ RV203/AU-190B/190C (B-3)

7-10. Hi-Fi AUDIO PB RF LEVEL ADJUSTMENT

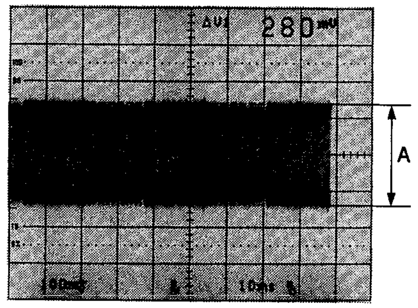
Machine condition for adjustment	**Specifications**	**Adjustments**
• Play back the alignment tape, KRV-39NF • Tracking Volume: Maximize the Hi-Fi RF level.	Test Terminal, Hi-Fi CH-1 (front panel)  A=300±10 mV	⊘ RV2/AU-190B/190C (A-3) Trigger: Test terminal, PG (front panel)

<Note> After this adjustment is completed, return tracking volume to center position.

7-11. Hi-Fi AUDIO REC CURRENT ADJUSTMENT

Machine condition for adjustment	**Specifications**	**Adjustments**
• CH-1, 2 AUDIO IN: no signal • REC mode	CN804-1/RP-77 (C-1)  A=210±5 mV	⊘ RV1/RP-77 (D-1) Trigger: INT

7-12. Hi-Fi AUDIO OVERALL RF LEVEL CHECK

<table>
<tr><th>Machine condition for adjustment</th><th>Specifications</th><th>Adjustments</th></tr>
<tr><td>• CH-1, 2 AUDIO IN: no signal
• Perform the self-recording/play back with a cassette tape.</td><td>Test Terminal, Hi-Fi CH-1 (Front panel)

A=150 mV or more
If the specification is not satisfied, turn off the switch S1/RP-77 (A-1).</td><td>Trigger: Test terminal, PG (front panel)</td></tr>
</table>

7-13. Hi-Fi AUDIO PB LEVEL ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• AUDIO OUT SELECT switch: Hi-Fi • Play back the alignment tape, KRV-35NF	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu	⊘ CH-1: RV101 /AU-190B/190C (A-1) ⊘ CH-2: RV201 /AU-190B/190C (B-4)

7-14. Hi-Fi AUDIO OVERALL LEVEL ADJUSTMENT

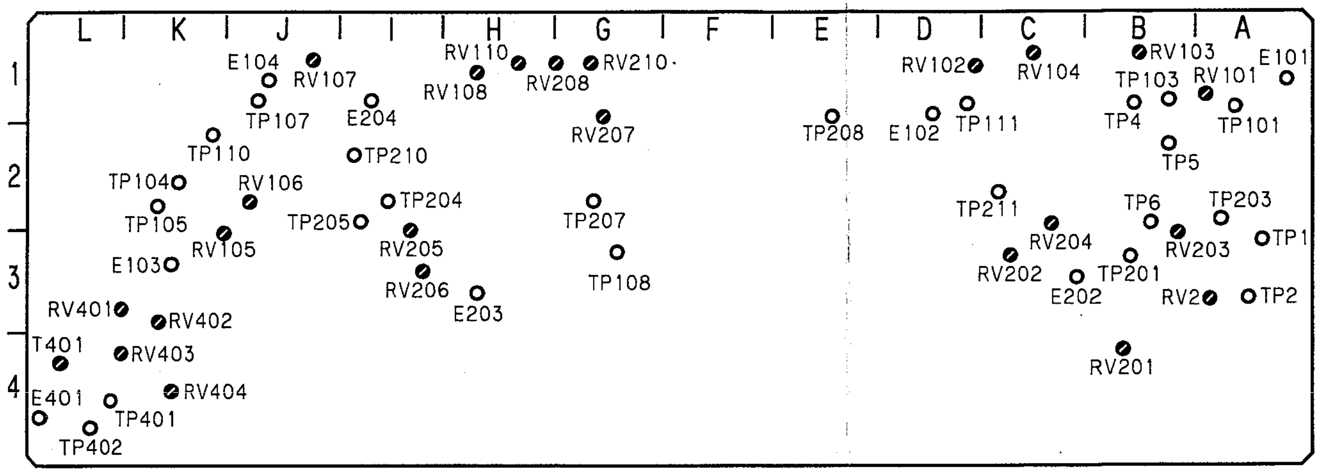
Step 1.

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: Hi-Fi • Perform the self-recording/play back with a cassette tape.	CH-1: CH-1/L AUDIO MONITOR (terminated with 47 kΩ) CH-2: CH-2/R AUDIO MONITOR (terminated with 47 kΩ) −10±0.3 dBu ⟨Note⟩ If the specification is not satisfied, note the measurement value, perform the adjustment of the Step 2.	

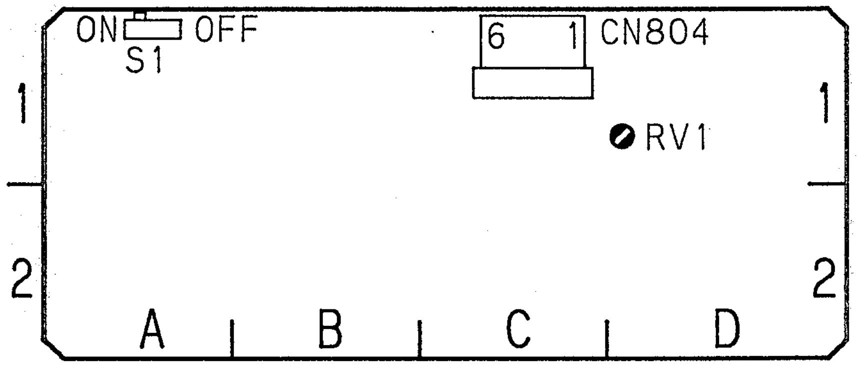
Step 2.

Machine condition for adjustment	Specifications	Adjustments
• CH-1, 2 AUDIO IN: 1 kHz −10 dBu • AUDIO OUT SELECT switch: Hi-Fi • REC mode or STOP mode	CH-1: TP103/AU-190/190A (B-1) CH-2: TP203/AU-190/190À (A-2) Compensate a half of the difference between the specification and the measurement value. (After compensation, perform the Step 1.)	⊘ CH-1: RV102 /AU-190B/190C (D-1) ⊘ CH-2: RV202 /AU-190B/190C (C-3)

Locations of Es, RVs, T and TPs on AU-190B/190C Board. (A side)


L
K
J
H
G
F
E
D
C
B
A
1
2
3
4
E104
RV107
TP107
E204
RV110
RV108
RV208
RV210
RV207
TP110
TP210
TP104
RV106
TP105
TP205
TP204
RV205
TP207
RV105
E103
RV206
E203
TP108
RV401
RV402
T401
RV403
RV404
E401
TP401
TP402
TP208
E102
TP111
RV102
RV104
RV103
TP103
RV101
E101
TP4
TP101
TP5
TP211
TP6
TP203
RV204
RV203
TP1
RV202
TP201
E202
RV2
TP2
RV201

Locations of CN, RV and S on RP-77 Board. (A side)


ON
OFF
S1
6
1
CN804
RV1
1
2
A
B
C
D

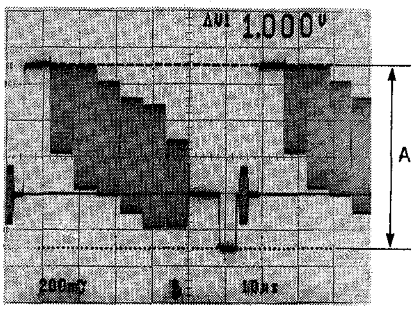
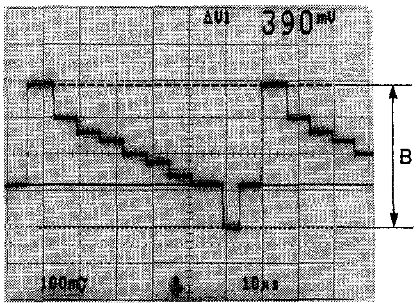
SECTION 8
VIDEO SYSTEM ALIGNMENT

[Equipment required]

- Oscilloscope (TEKTRONIX 2445B/150 MHz or more)
- Frequency counter (ADVANTEST TR5821AK)
- Signal generator (TEKTRONIX 1411, TSG-131 or equivalent)
- Alignment tape

Name (Parts No.)	REC mode	Contents		
		Video Area	**Normal Audio Area**	**Hi-Fi Audio Area**
Hi-Fi Alignment Tape KRV-35PF (8-192-603-56)	SP	• Color bar	• 400 Hz, 0 VU	• 400 Hz, 0 VU

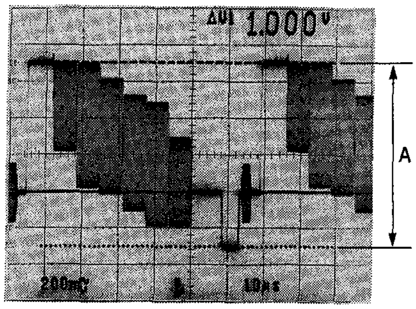
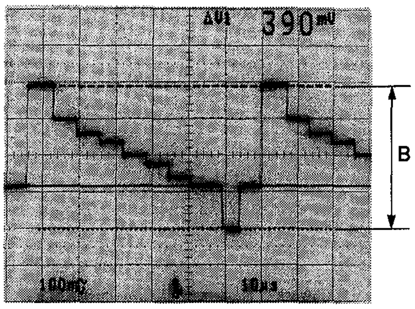
8-1. EE VIDEO OUT LEVEL ADJUSTMENT (AGC OFF)

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color bar signal • STOP mode • AGC OFF (Note)	VIDEO OUT connector (terminated with 75 Ω) (SVO-965P)  A=1.00±0.05 V (SVO-965P) TP106/VO-48A (H-3) (SVO-915P)  B=390±20 mV (SVO-915P)	⊘ RV101/VO-48/48A (J-1) Trigger: INT

<Note> [AGC OFF] setting

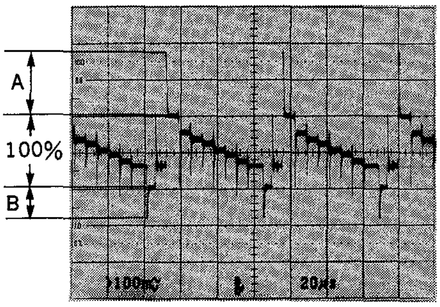
1) Set the mode select switch to DATA SET.
2) Press the [ITEM] button to select the "AGC-OFF (or ON)" on the display.
3) If "AGC-ON" is display, press the [DATA] button to "AGC-OFF".

8-2. EE VIDEO OUT LEVEL ADJUSTMENT (AGC ON)

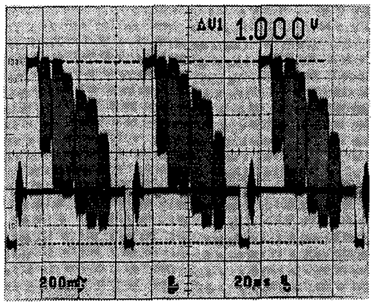
Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color bar signal • STOP mode • AGC ON (Note)	VIDEO OUT connector (terminated with 75 Ω) (SVO-965)  A=1.00±0.05 V (SVO-965P) TP106/VO-48A (H-3) (SVO-915P)  B=390±20 mV (SVO-915P)	⊘RV107/VO-48/48A (G-3) Trigger: INT

〈Note〉 Refer to section 8-1.

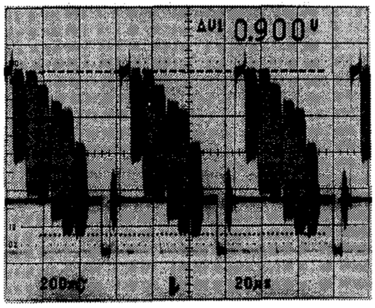
8-3. WHITE/DARK CLIP ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color bar signal • EE mode	TP105/VO-48/48A (E-3)  with respect to 100% (VIDEO+SYNC) white: A=90 $^{+0}_{-10}$% dark: B=40 $^{+0}_{-10}$%	white clip adjustment ⊘RV111/VO-48/48A (E-2) dark clip adjustment ⊘RV110/VO-48/48A (E-2) Trigger: VIDEO OUT connector or TP107/VO-48/48A (J-2)

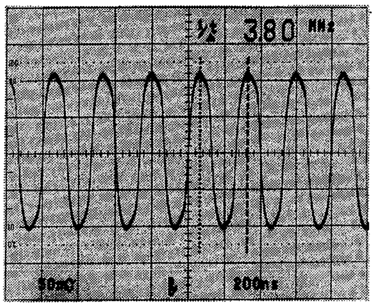
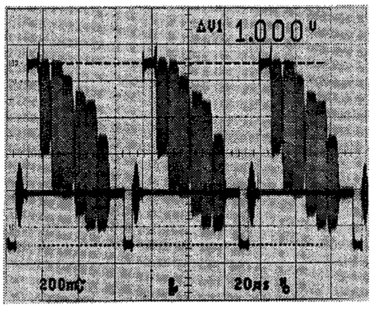
8-4. PB Y LEVEL ADJUSTMENT (SVO-965P ONLY)

Machine condition for adjustment	**Specifications**	**Adjustments**
• Play back the color bar signal portion of the alignment tape KRV-35PF.	VIDEO OUT connector (terminated with 75 Ω)  1.00±0.05 V	⊘ RV103/VO-48 (D-3) Trigger: INT

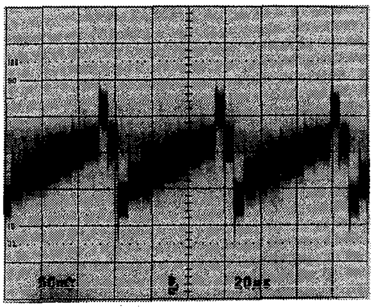
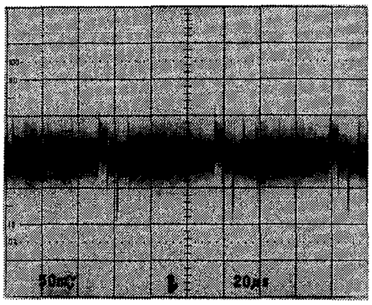
8-5. PB CHROMA LEVEL ADJUSTMENT (SVO-965P ONLY)

Machine condition for adjustment	**Specifications**	**Adjustments**
• Play back the color bar signal portion of the alignment tape KRV-35PF.	VIDEO OUT connector (terminated with 75 Ω)  $0.90^{+0}_{-0.05}$ V	⊘ RV303/VO-48 (H-4) Trigger: INT

8-6. SYNC TIP CARRIER SET/DEVIATION ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: no signal	Sync Tip carrier set adjustment TP103/VO-48/48A (E-1)  3.80±0.05 MHz	⊘ RV109/VO-48/48A (E-2) Trigger: INT
• VIDEO IN: color bar signal • Perform the self-recording/play back with a cassette tape.	deviation adjustment VIDEO OUT connector (terminated with 75 Ω)  1.00±0.05 V	⊘ RV108/VO-48/48A (E-2) Trigger: INT

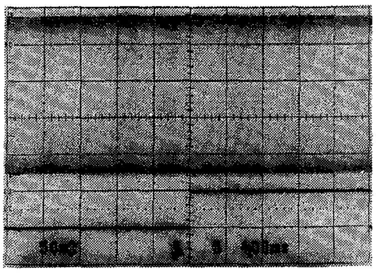
8-7. NOISE CANCEL ADJUSTMENT (SVO-965P ONLY)

Machine condition for adjustment	Specifications	Adjustments
• Play back the color bar signal portion of the alignment tape KRV-35PF.	TP104/VO-48 (F-2) NG  ⇩ OK  Minimize the level	⊘RV106/DL-44 Trigger: VIDEO OUT connector or TP107/VO-48 (J-2)

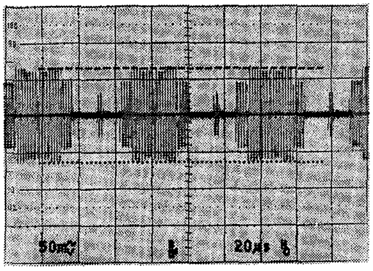
8-8. PB 4.43 MHz OSC ADJUSTMENT (SVO-965P ONLY)

Machine condition for adjustment	Specifications	Adjustments
• Play back the color bar signal portion of the alignment tape KRV-35PF.	TP303/VO-48 (A-2) 4433619±10 Hz	⊘CV301/VO-48 (A-3)

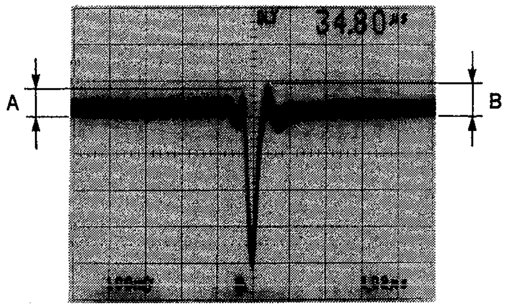
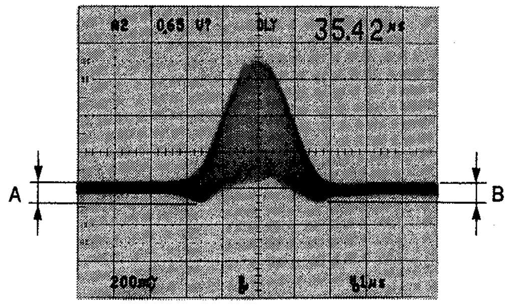
8-9. Y REC CURRENT ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color bar signal • REC mode	TP103/VO-48/48A (E-1)  250±5 mV p-p at V-sync	⊘ RV105/VO-48/48A (D-1) Trigger: PG Terminal (Front Panel)

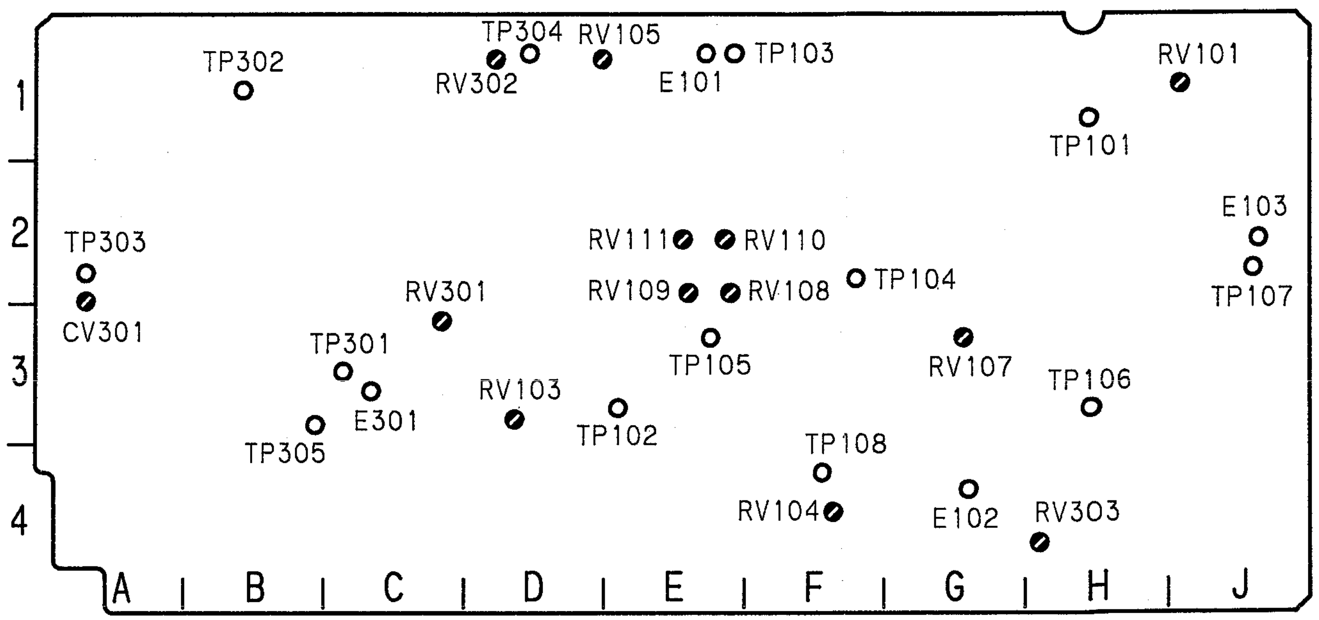
8-10. CHROMA REC CURRENT ADJUSTMENT

Machine condition for adjustment	Specifications	Adjustments
• VIDEO IN: color bar signal • EE mode	TP304/VO-48/48A (D-1)  120±10 mV	⊘ RV302/VO-48/48A (D-1) Trigger: VIDEO OUT connector or TP107/VO-48/48A (J-2)

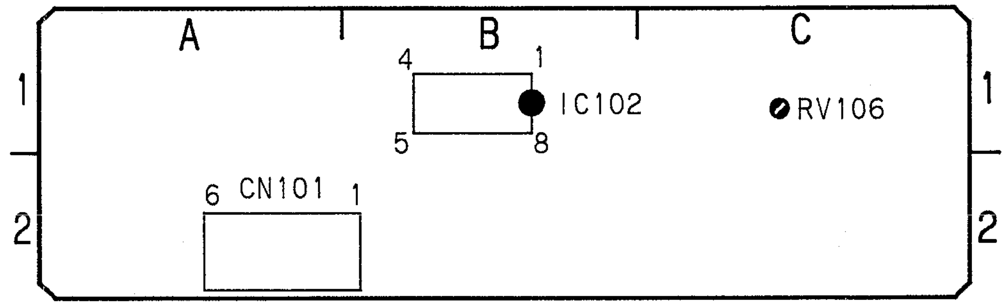
8-11. OVERALL Y/C DELAY ADJUSTMENT (SVO-965P ONLY)

Machine condition for adjustment	Specifications	Adjustments
- VIDEO IN: Pulse & bar signal (MOD 12.5T) - Perform the self-recording/play back with a cassette tape.	VIDEO OUT connector (terminated with 75 Ω)  A×2=B	⊘ RV104/VO-48 (F-4) Trigger: INT
	VIDEO OUT connector (terminated with 75 Ω)  A=B	⊘ RV301/VO-48 (C-3) Trigger: INT

Locations of CV, Es, RVs and TPs on VO-48/48A Board.

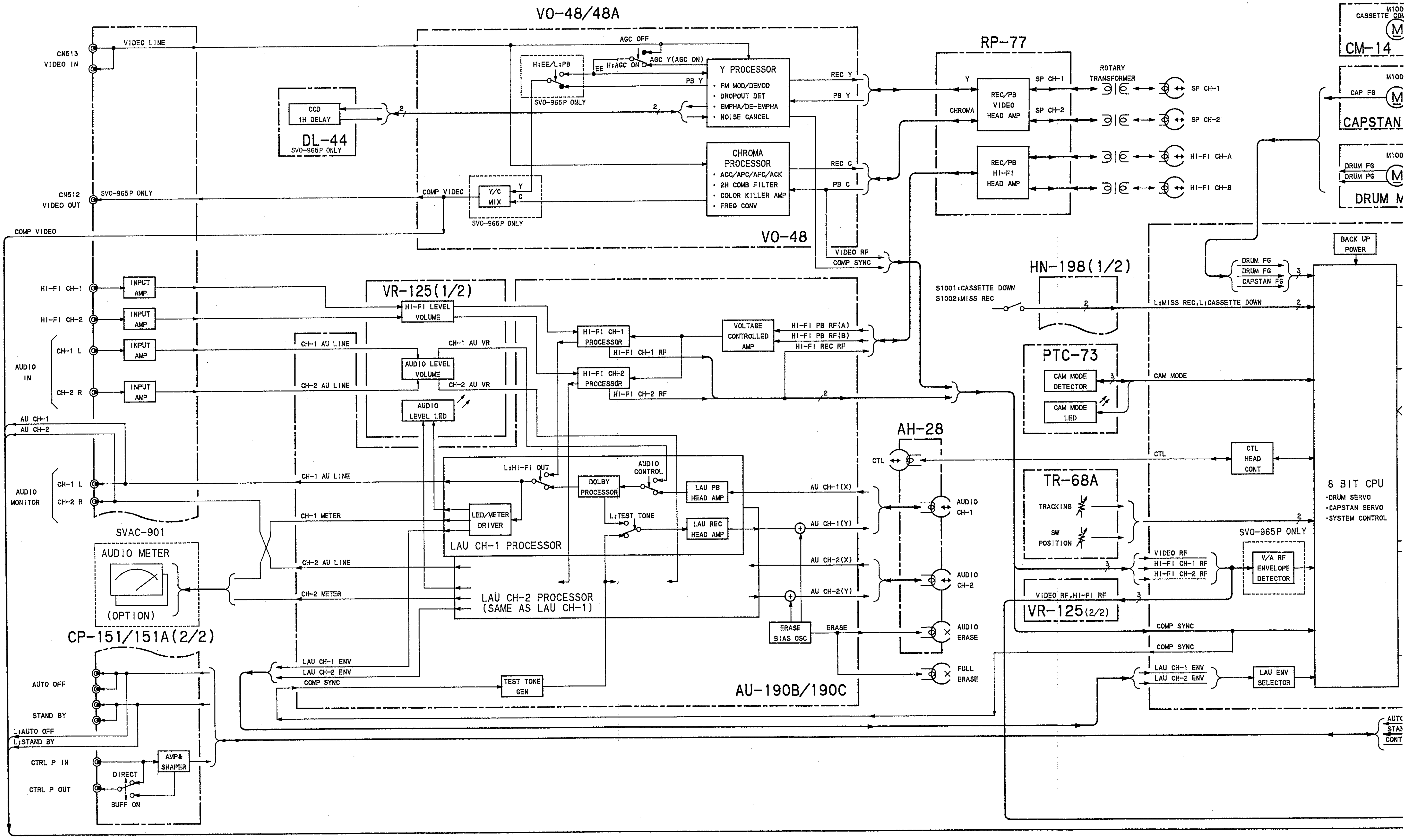

TP302
TP304
RV105
RV302
TP103
E101
RV101
TP101
E103
TP107
TP303
CV301
RV111
RV110
RV109
RV108
TP104
RV301
TP301
E301
TP305
RV103
TP102
TP105
RV107
TP106
TP108
RV104
E102
RV303
1
2
3
4
A
B
C
D
E
F
G
H
J

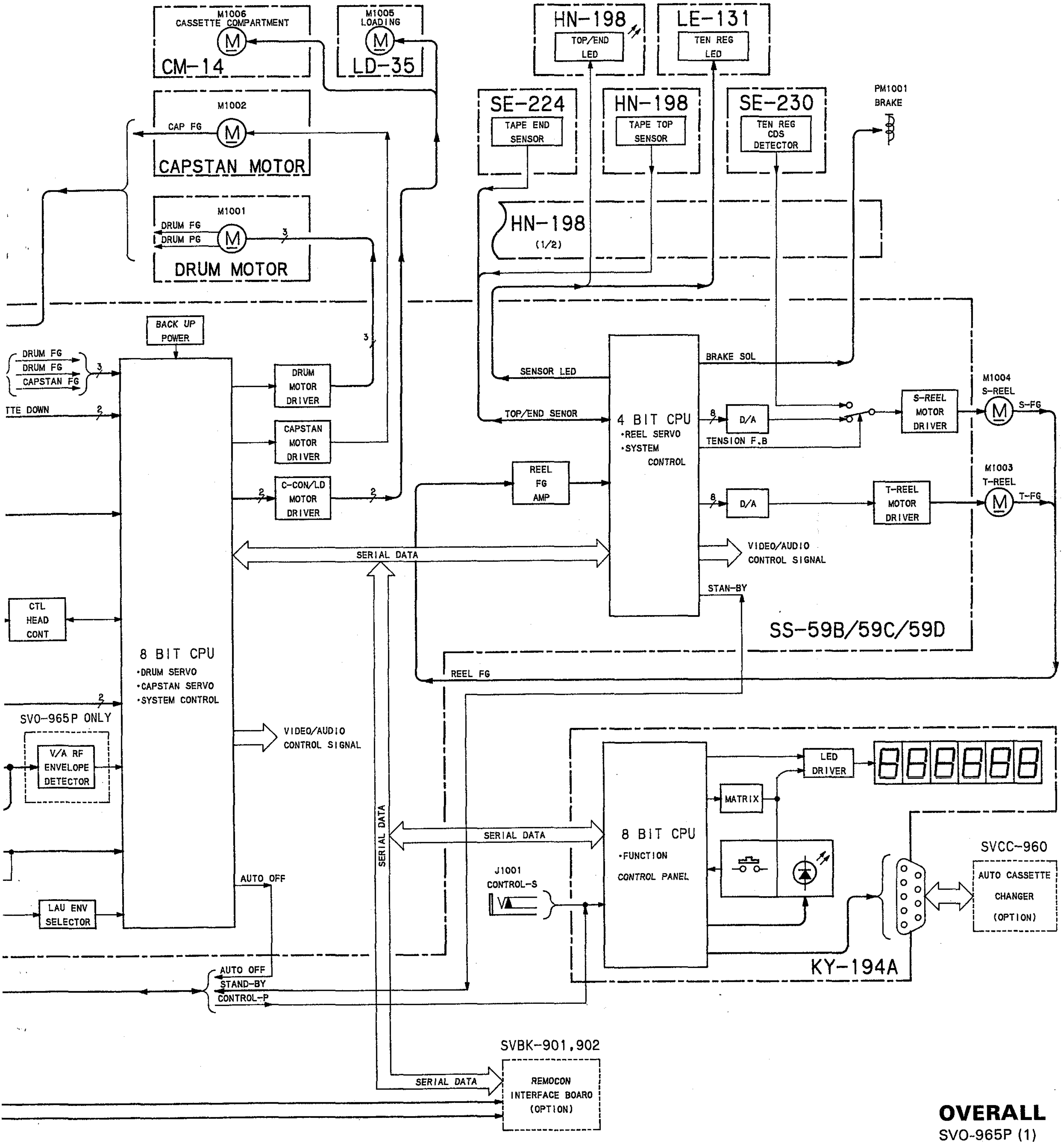
Locations of CN, IC, RV on DL-44 Board.


A
B
C
4
1
5
8
IC102
RV106
6
CN101
1
1
2
1
2

SECTION 9
BLOCK DIAGRAMS

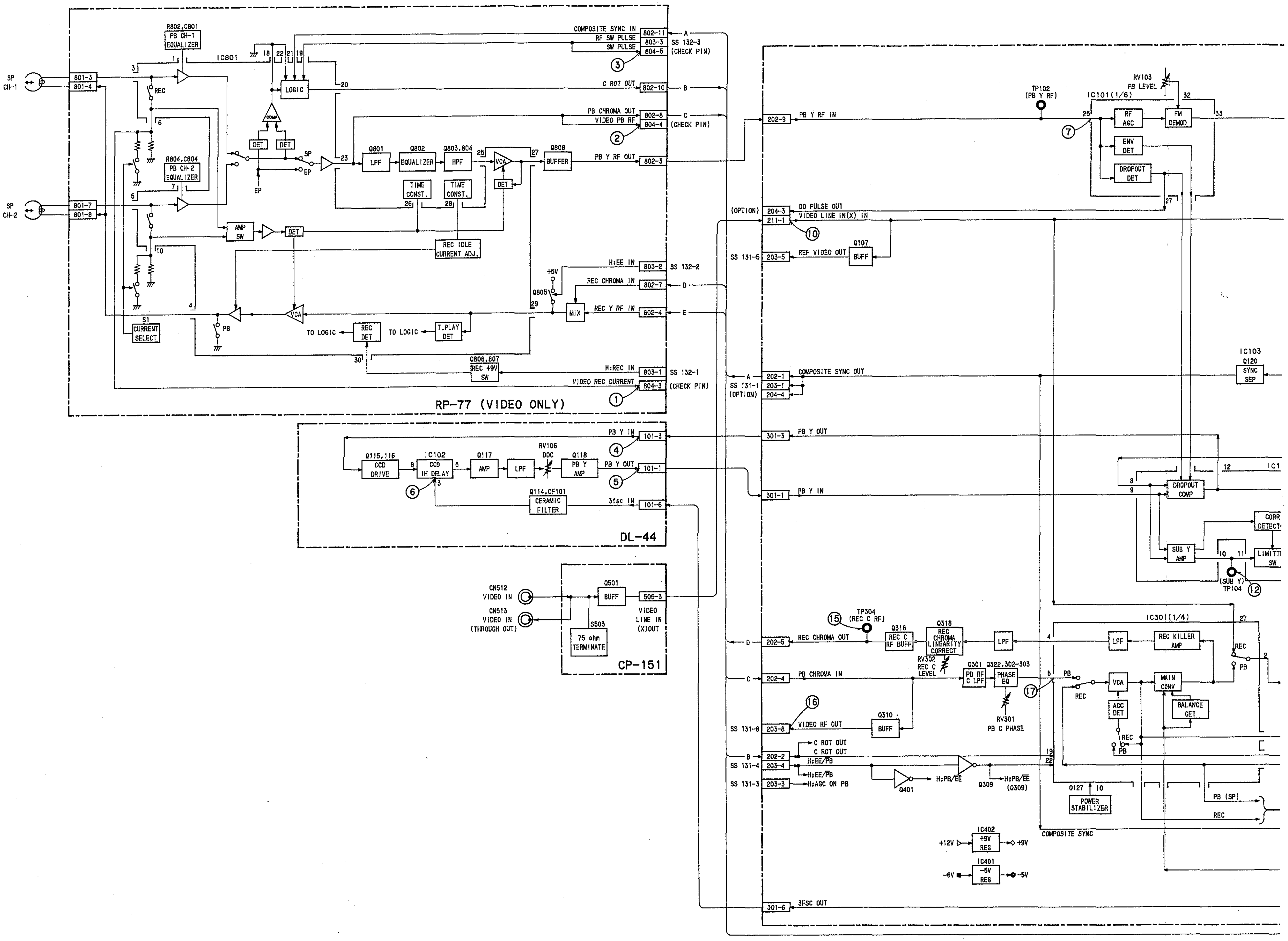
OVERALL

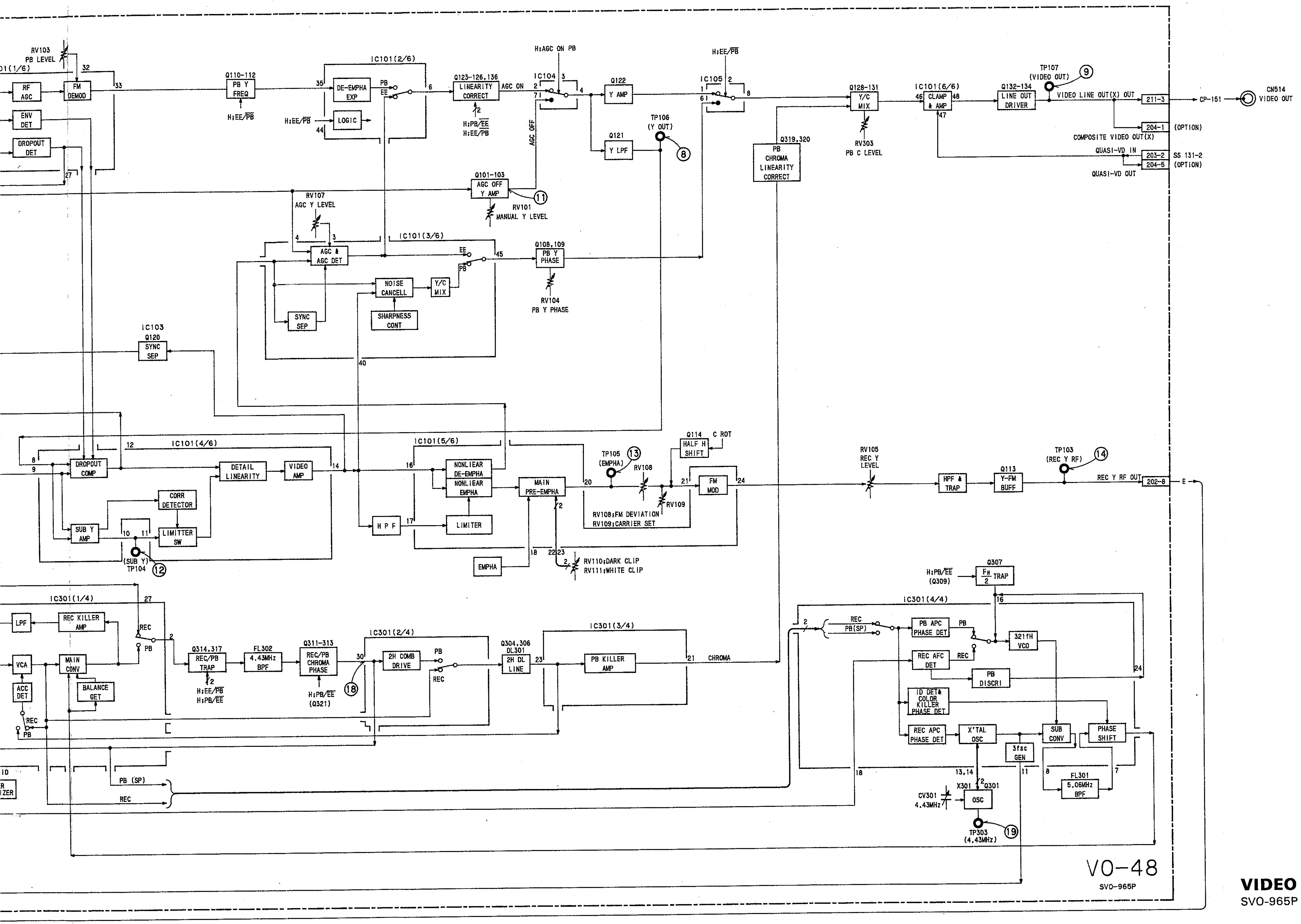

VO-48/48A
CN513
VIDEO IN
VIDEO LINE
AGC OFF
AGC Y(AGC ON)
H:AGC ON
H:EE/L:PB
EE
PB Y
SVO-965P ONLY
Y PROCESSOR
• FM MOD/DEMOD
• DROPOUT DET
• EMPHA/DE-EMPHA
• NOISE CANCEL
REC Y
PB Y
CCD
1H DELAY
DL-44
SVO-965P ONLY
CHROMA PROCESSOR
• ACC/APC/AFC/ACK
• 2H COMB FILTER
• COLOR KILLER AMP
• FREQ CONV
REC C
PB C
CN512
VIDEO OUT
SVO-965P ONLY
COMP VIDEO
Y/C MIX
Y
C
SVO-965P ONLY
VO-48
COMP VIDEO
RP-77
Y
CHROMA
REC/PB VIDEO HEAD AMP
SP CH-1
SP CH-2
REC/PB HI-FI HEAD AMP
ROTARY TRANSFORMER
SP CH-1
SP CH-2
HI-FI CH-A
HI-FI CH-B
M100
CASSETTE COM
CM-14
M100
CAP FG
CAPSTAN
M100
DRUM FG
DRUM PG
DRUM M
VIDEO RF
COMP SYNC
HI-FI CH-1
HI-FI CH-2
INPUT AMP
INPUT AMP
AUDIO IN
CH-1 L
CH-2 R
INPUT AMP
INPUT AMP
VR-125(1/2)
HI-FI LEVEL VOLUME
CH-1 AU LINE
CH-1 AU VR
AUDIO LEVEL VOLUME
CH-2 AU LINE
CH-2 AU VR
AUDIO LEVEL LED
HI-FI CH-1 PROCESSOR
HI-FI CH-1 RF
HI-FI CH-2 PROCESSOR
HI-FI CH-2 RF
VOLTAGE CONTROLLED AMP
HI-FI PB RF(A)
HI-FI PB RF(B)
HI-FI REC RF
HN-198(1/2)
S1001:CASSETTE DOWN
S1002:MISS REC
L:MISS REC, L:CASSETTE DOWN
BACK UP POWER
DRUM FG
DRUM PG
CAPSTAN FG
PTC-73
CAM MODE DETECTOR
CAM MODE LED
CAM MODE
AU CH-1
AU CH-2
AUDIO MONITOR
CH-1 L
CH-2 R
CH-1 AU LINE
L:HI-FI OUT
AUDIO CONTROL
DOLBY PROCESSOR
LAU PB HEAD AMP
AU CH-1(X)
AH-28
CTL
AUDIO CH-1
CTL
CTL HEAD CONT
8 BIT CPU
•DRUM SERVO
•CAPSTAN SERVO
•SYSTEM CONTROL
TR-68A
TRACKING
SW POSITION
CH-1 METER
LED/METER DRIVER
L:TEST TONE
LAU REC HEAD AMP
AU CH-1(Y)
LAU CH-1 PROCESSOR
SVAC-901
AUDIO METER
(OPTION)
CH-2 AU LINE
AU CH-2(X)
AUDIO CH-2
VIDEO RF
HI-FI CH-1 RF
HI-FI CH-2 RF
SVO-965P ONLY
V/A RF ENVELOPE DETECTOR
CH-2 METER
LAU CH-2 PROCESSOR
(SAME AS LAU CH-1)
AU CH-2(Y)
VIDEO RF, HI-FI RF
VR-125(2/2)
CP-151/151A(2/2)
ERASE BIAS OSC
ERASE
AUDIO ERASE
COMP SYNC
COMP SYNC
AUTO OFF
LAU CH-1 ENV
LAU CH-2 ENV
COMP SYNC
TEST TONE GEN
AU-190B/190C
FULL ERASE
LAU CH-1 ENV
LAU CH-2 ENV
LAU ENV SELECTOR
STAND BY
L:AUTO OFF
L:STAND BY
AUTO
STAN
CONT
CTRL P IN
CTRL P OUT
DIRECT
BUFF ON
AMP& SHAPER
2
3
2
2
2
3
2
3


M1006
CASSETTE COMPARTMENT
CM-14
M1005
LOADING
LD-35
M1002
CAP FG
CAPSTAN MOTOR
M1001
DRUM FG
DRUM PG
DRUM MOTOR
HN-198
TOP/END LED
LE-131
TEN REG LED
SE-224
TAPE END SENSOR
HN-198
TAPE TOP SENSOR
SE-230
TEN REG CDS DETECTOR
PM1001
BRAKE
HN-198
(1/2)
BACK UP POWER
DRUM FG
DRUM FG
CAPSTAN FG
TTE DOWN
DRUM MOTOR DRIVER
CAPSTAN MOTOR DRIVER
C-CON/LD MOTOR DRIVER
CTL HEAD CONT
8 BIT CPU
•DRUM SERVO
•CAPSTAN SERVO
•SYSTEM CONTROL
SVO-965P ONLY
V/A RF ENVELOPE DETECTOR
LAU ENV SELECTOR
VIDEO/AUDIO CONTROL SIGNAL
AUTO OFF
SERIAL DATA
BRAKE SOL
SENSOR LED
TOP/END SENOR
4 BIT CPU
•REEL SERVO
•SYSTEM CONTROL
REEL FG AMP
D/A
TENSION F.B
D/A
S-REEL MOTOR DRIVER
T-REEL MOTOR DRIVER
M1004
S-REEL
S-FG
M1003
T-REEL
T-FG
VIDEO/AUDIO CONTROL SIGNAL
STAN-BY
SS-59B/59C/59D
REEL FG
LED DRIVER
MATRIX
8 BIT CPU
•FUNCTION
CONTROL PANEL
SERIAL DATA
J1001
CONTROL-S
SVCC-960
AUTO CASSETTE CHANGER (OPTION)
KY-194A
AUTO OFF
STAND-BY
CONTROL-P
SVBK-901,902
SERIAL DATA
REMOCON INTERFACE BOARD (OPTION)
3
2
2
2
8
8

OVERALL
SVO-965P (1)
SVO-915P (1)

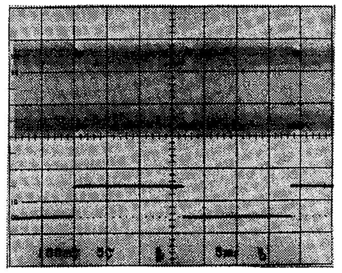
VIDEO SYSTEM (SVO-965P)


SP CH-1
SP CH-2
801-3
801-4
801-7
801-8
R802,C801
PB CH-1 EQUALIZER
R804,C804
PB CH-2 EQUALIZER
IC801
REC
LOGIC
COMP
DET
SP
EP
Q801
LPF
Q802
EQUALIZER
Q803,804
HPF
VCA
Q808
BUFFER
TIME CONST.
REC IDLE CURRENT ADJ.
AMP SW
S1
CURRENT SELECT
PB
TO LOGIC
REC DET
T.PLAY DET
Q805
+5V
MIX
Q806,807
REC +9V SW
COMPOSITE SYNC IN
RF SW PULSE
SW PULSE
C ROT OUT
PB CHROMA OUT
VIDEO PB RF
PB Y RF OUT
H:EE IN
REC CHROMA IN
REC Y RF IN
H:REC IN
VIDEO REC CURRENT
802-11
803-3
804-5
802-10
802-8
804-4
802-3
803-2
802-7
802-4
803-1
804-3
SS 132-3
(CHECK PIN)
SS 132-2
SS 132-1
RP-77 (VIDEO ONLY)
PB Y IN
PB Y OUT
3fsc IN
101-3
101-1
101-6
Q115,116
CCD DRIVE
IC102
CCD 1H DELAY
Q117
AMP
LPF
RV106
DOC
Q118
PB Y AMP
Q114,CF101
CERAMIC FILTER
DL-44
CN512
VIDEO IN
CN513
VIDEO IN
(THROUGH OUT)
Q501
BUFF
S503
75 ohm TERMINATE
505-3
VIDEO LINE IN (X)OUT
CP-151
202-9
PB Y RF IN
TP102
(PB Y RF)
IC101(1/6)
RV103
PB LEVEL
RF AGC
FM DEMOD
ENV DET
DROPOUT DET
(OPTION)
204-3
DO PULSE OUT
211-1
VIDEO LINE IN(X) IN
Q107
SS 131-5
203-5
REF VIDEO OUT
BUFF
IC103
Q120
SYNC SEP
SS 131-1
(OPTION)
202-1
203-1
204-4
COMPOSITE SYNC OUT
301-3
PB Y OUT
301-1
PB Y IN
IC1
DROPOUT COMP
CORR DETECT
SUB Y AMP
LIMITT SW
(SUB Y)
TP104
TP304
(REC C RF)
Q316
REC C RF BUFF
Q318
REC CHROMA LINEARITY CORRECT
LPF
IC301(1/4)
REC KILLER AMP
202-5
REC CHROMA OUT
202-4
PB CHROMA IN
RV302
REC C LEVEL
Q301
PB RF C LPF
Q322,302-303
PHASE EQ
RV301
PB C PHASE
VCA
MAIN CONV
ACC DET
BALANCE GET
SS 131-8
203-8
VIDEO RF OUT
Q310
BUFF
202-2
C ROT OUT
SS 131-4
203-4
H:EE/PB
SS 131-3
203-3
H:AGC ON PB
Q401
H:PB/EE
Q309
(Q309)
Q127
POWER STABILIZER
PB (SP)
REC
COMPOSITE SYNC
IC402
+12V
+9V REG
+9V
IC401
-6V
-5V REG
-5V
301-6
3FSC OUT
①
②
③
④
⑤
⑥
⑦
⑩
⑫
⑮
⑯
⑰

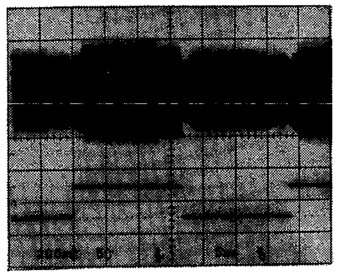

RV103
PB LEVEL
01(1/6)
32
33
RF AGC
FM DEMOD
ENV DET
DROPOUT DET
27
Q110-112
PB Y FREQ
H;EE/PB
IC101(2/6)
35
DE-EMPHA EXP
PB
EE
6
H;EE/PB
LOGIC
44
Q123-126,136
LINEARITY CORRECT
AGC ON
2
H;PB/EE
H;EE/PB
H;AGC ON PB
IC104
3
7
1
4
AGC OFF
Q122
Y AMP
Q121
Y LPF
TP106
(Y OUT)
8
H;EE/PB
IC105
2
1
6
8
Q101-103
AGC OFF Y AMP
11
RV101
MANUAL Y LEVEL
RV107
AGC Y LEVEL
4
3
IC101(3/6)
AGC & AGC DET
EE
PB
45
Q108,109
PB Y PHASE
RV104
PB Y PHASE
NOISE CANCELL
Y/C MIX
SHARPNESS CONT
SYNC SEP
40
IC103
Q120
SYNC SEP
Q319,320
PB CHROMA LINEARITY CORRECT
Q128-131
Y/C MIX
RV303
PB C LEVEL
IC101(6/6)
46
CLAMP & AMP
48
47
Q132-134
LINE OUT DRIVER
TP107
(VIDEO OUT)
9
VIDEO LINE OUT(X) OUT
211-3
CP-151
CN514
VIDEO OUT
204-1
(OPTION)
COMPOSITE VIDEO OUT(X)
QUASI-VD IN
203-2
204-5
SS 131-2
(OPTION)
QUASI-VD OUT
12
IC101(4/6)
8
9
DROPOUT COMP
DETAIL LINEARITY
VIDEO AMP
14
CORR DETECTOR
SUB Y AMP
10
11
LIMITTER SW
(SUB Y)
TP104
12
IC101(5/6)
16
NONLIEAR DE-EMPHA
NONLIEAR EMPHA
LIMITER
H P F
17
MAIN PRE-EMPHA
2
20
TP105
(EMPHA)
13
RV108
RV109
Q114
HALF H SHIFT
C ROT
21
FM MOD
24
RV108;FM DEVIATION
RV109;CARRIER SET
EMPHA
18
22
23
2
RV110;DARK CLIP
RV111;WHITE CLIP
RV105
REC Y LEVEL
HPF & TRAP
Q113
Y-FM BUFF
TP103
(REC Y RF)
14
REC Y RF OUT
202-8
E
IC301(1/4)
27
LPF
REC KILLER AMP
REC
PB
2
VCA
MAIN CONV
BALANCE GET
ACC DET
REC
PB
Q314,317
REC/PB TRAP
2
H;EE/PB
H;PB/EE
FL302
4.43MHz BPF
Q311-313
REC/PB CHROMA PHASE
H;PB/EE
(Q321)
18
IC301(2/4)
30
2H COMB DRIVE
PB
REC
Q304,306
DL301
2H DL LINE
23
IC301(3/4)
PB KILLER AMP
21
CHROMA
10
PB (SP)
REC
H;PB/EE
(Q309)
Q307
FH/2 TRAP
IC301(4/4)
16
2
REC
PB(SP)
PB APC PHASE DET
PB
321fH VCO
REC AFC DET
REC
PB DISCRI
24
ID DET& COLOR KILLER PHASE DET
REC APC PHASE DET
X'TAL OSC
SUB CONV
PHASE SHIFT
3fsc GEN
18
13,14
11
8
7
FL301
5.06MHz BPF
X301
Q301
2
CV301
4.43MHz
OSC
TP303
(4.43MHz)
19
VO-48
SVO-965P

VIDEO SYSTEM
SVO-965P (1)

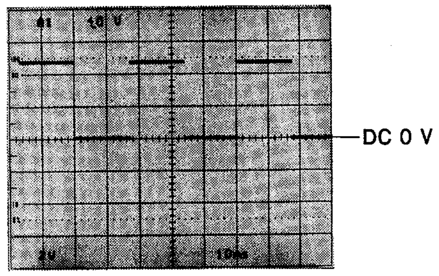
① CN804 pin 3 REC mode
CN804 pin 5 (TRIG)



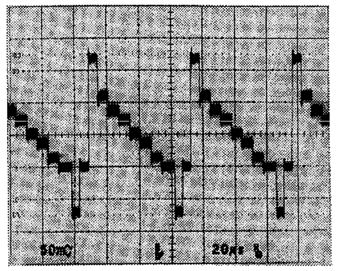
② CN804 pin 4 PB mode
CN804 pin 5 (TRIG)



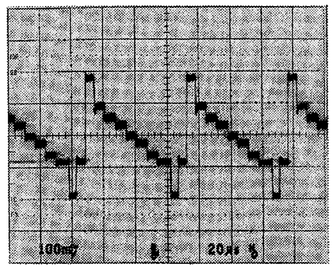
③ CN804 pin 5 REC mode



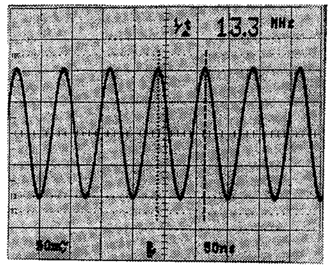
④ CN101-3 PB mode



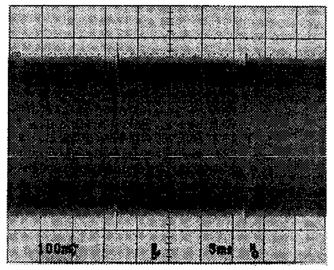
⑤ CN101-1 PB mode



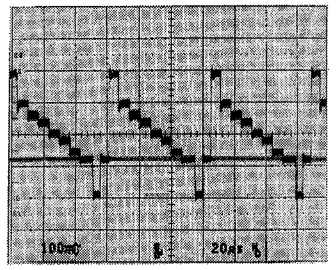
⑥ IC102-3 EE mode



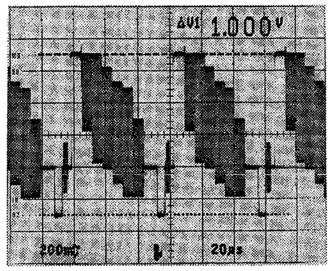
⑦ IC101-25 PB mode



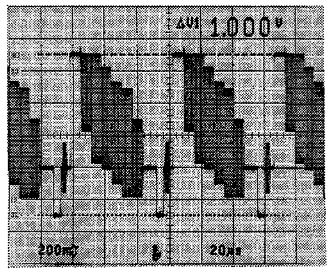
⑧ TP106 PB mode



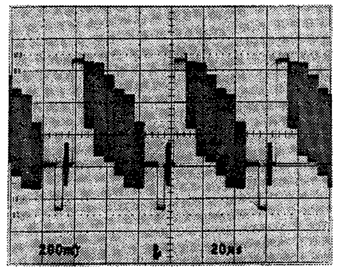
⑨ TP107 EE mode



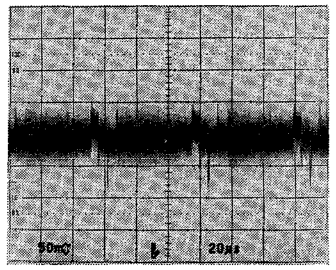
⑩ CN211-1 EE mode



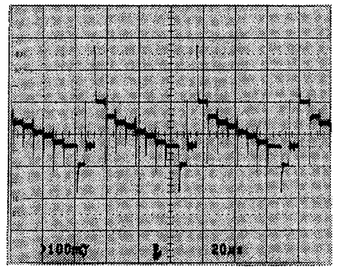
⑪ Q103 Emitter EE mode



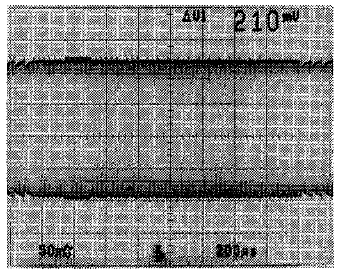
⑫ TP104 PB mode



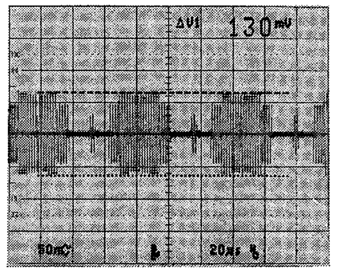
⑬ TP105 EE mode



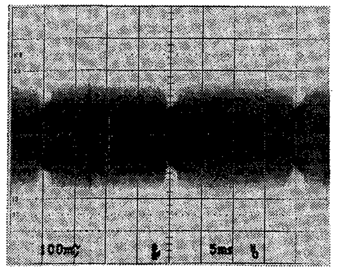
⑭ TP103 REC mode



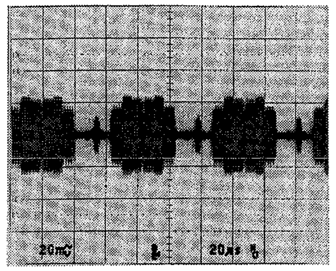
⑮ TP304 REC mode



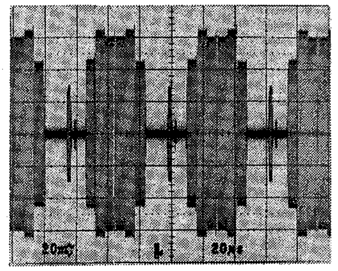
⑯ CN203-8 PB mode



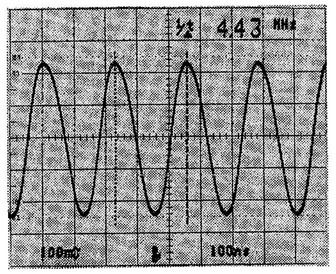
⑰ IC301-5 PB mode



⑱ IC301-30 EE mode



⑲ TP303 EE mode



Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

RP-77 (1-651-146-11)

CN801	C-2
CN802	B-1
CN803	A-1
CN804	C-1
CN805	D-1

DL-44 (1-638-811-13)

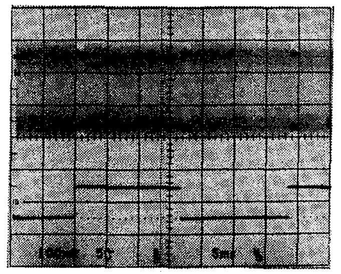
CN101	A-2
IC102	B-1

VO-48/48A (1-651-147-11)

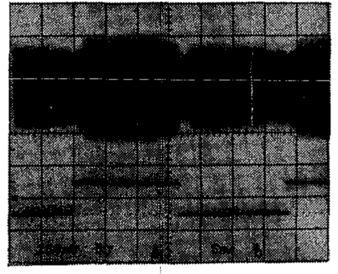
CN201	A-1
CN202	F-1
CN203	B-1
CN204	C-1
CN211	J-2
CN212	J-2
CN301	J-2
IC101	F-3
IC301	A-3
Q103	H-2 *
TP103	E-1
TP104	F-2
TP105	E-3
TP106	H-3
TP107	J-2
TP303	A-2

* mark; B SIDE mount

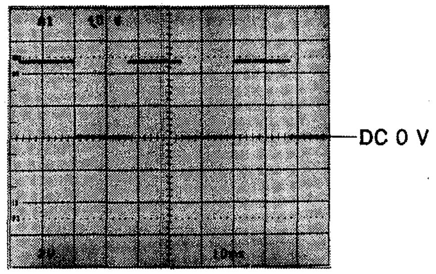
① CN804 pin 3 REC mode
CN804 pin 5 (TRIG)



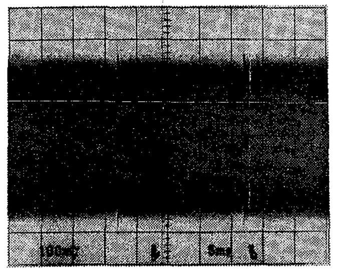
② CN804 pin 4 PB mode
CN804 pin 5 (TRIG)



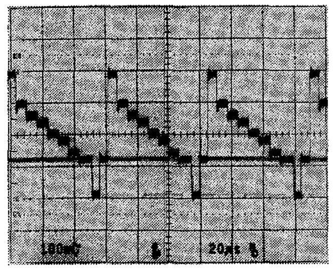
③ CN804 pin 5 REC mode



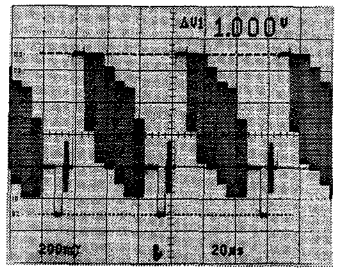
④ IC101-25 PB mode



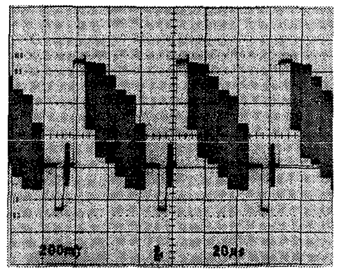
⑤ TP106 PB mode



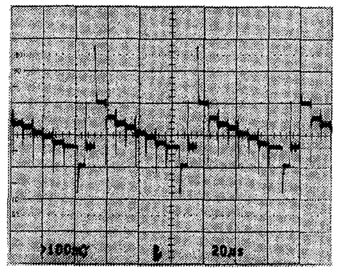
⑥ CN211-1 EE mode



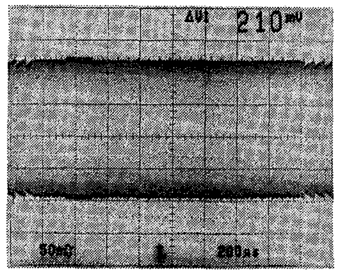
⑦ Q103 Emitter EE mode



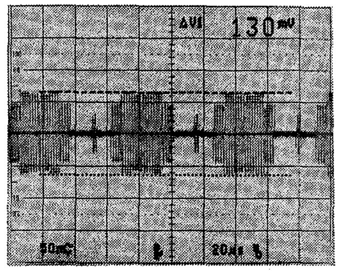
⑧ TP105 EE mode



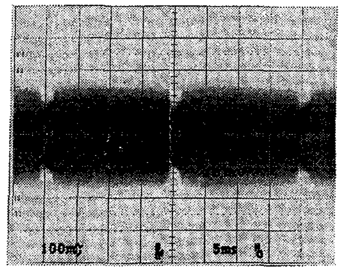
⑨ TP103 REC mode



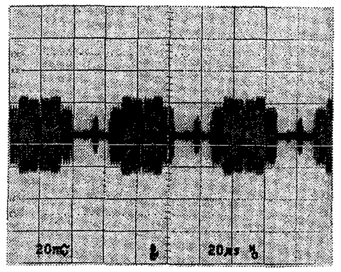
⑩ TP304 REC mode



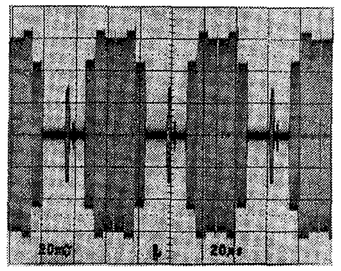
⑪ CN203-8 PB mode



⑫ IC301-5 PB mode



⑬ IC301-30 EE mode



Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

RP-77 (1-651-146-11)

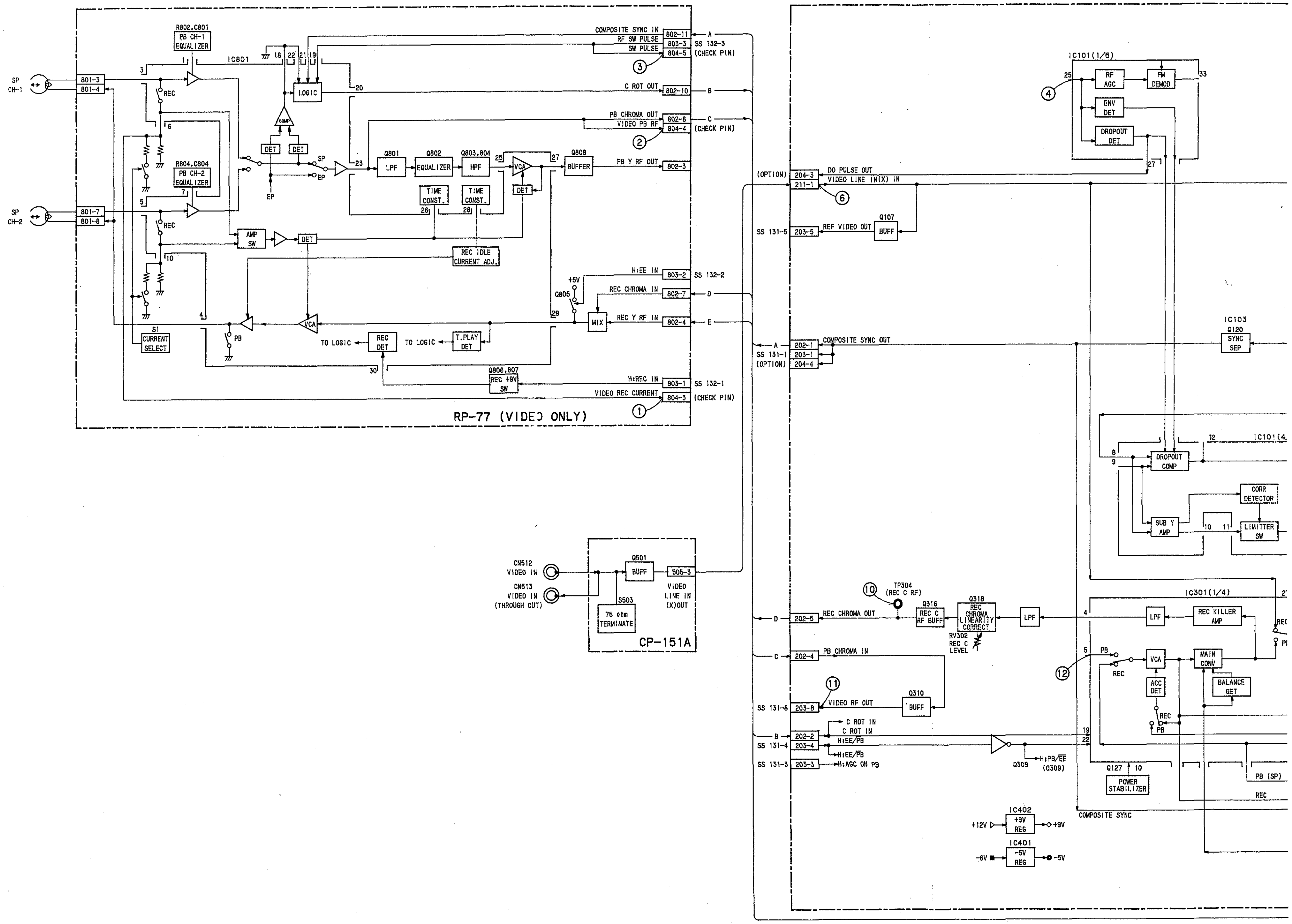
CN801	C-2
CN802	B-1
CN803	A-1
CN804	C-1
CN805	D-1

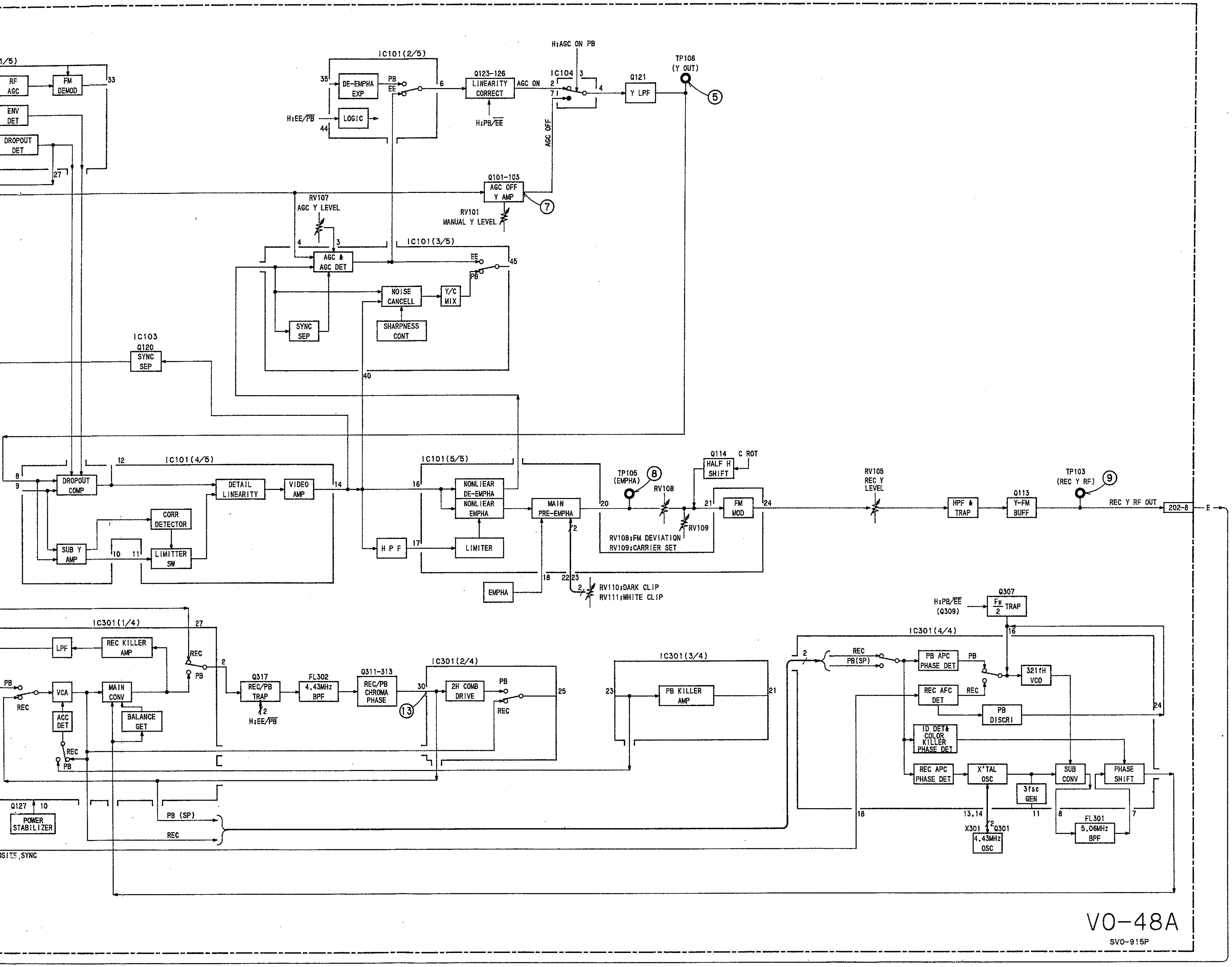
VO-48/48A (1-651-147-11)

CN201	A-1
CN202	F-1
CN203	B-1
CN204	C-1
CN211	J-2
CN212	J-2
CN301	J-2
IC101	F-3
IC301	A-3
Q103	H-2 *
TP103	E-1
TP104	F-2
TP105	E-3
TP106	H-3
TP107	J-2
TP303	A-2

* mark; B SIDE mount

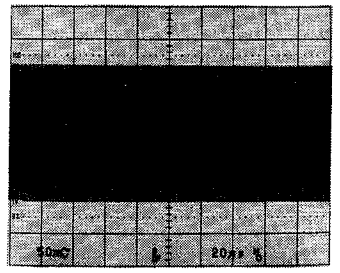
VIDEO SYSTEM (SVO-915P)


SP CH-1
SP CH-2
801-3
801-4
801-7
801-8
R802,C801 PB CH-1 EQUALIZER
R804,C804 PB CH-2 EQUALIZER
IC801
REC
LOGIC
COMP
DET
SP
EP
Q801 LPF
Q802 EQUALIZER
Q803,804 HPF
VCA
Q808 BUFFER
TIME CONST.
AMP SW
REC IDLE CURRENT ADJ.
S1 CURRENT SELECT
PB
TO LOGIC
REC DET
T.PLAY DET
MIX
Q805
+5V
Q806,807 REC +9V SW
COMPOSITE SYNC IN
RF SW PULSE
SW PULSE
C ROT OUT
PB CHROMA OUT
VIDEO PB RF
PB Y RF OUT
H:EE IN
REC CHROMA IN
REC Y RF IN
H:REC IN
VIDEO REC CURRENT
802-11
803-3
804-5
802-10
802-8
804-4
802-3
803-2
802-7
802-4
803-1
804-3
SS 132-3
(CHECK PIN)
SS 132-2
SS 132-1
RP-77 (VIDEO ONLY)
①
②
③
CN512 VIDEO IN
CN513 VIDEO IN (THROUGH OUT)
Q501 BUFF
S503
75 ohm TERMINATE
505-3
VIDEO LINE IN (X)OUT
CP-151A
(OPTION)
204-3
211-1
DO PULSE OUT
VIDEO LINE IN(X) IN
④
⑥
Q107 BUFF
SS 131-5
203-5
REF VIDEO OUT
IC101(1/5)
RF AGC
FM DEMOD
ENV DET
DROPOUT DET
IC103 Q120 SYNC SEP
202-1
203-1
204-4
SS 131-1
COMPOSITE SYNC OUT
IC101(4/
DROPOUT COMP
CORR DETECTOR
SUB Y AMP
LIMITTER SW
⑩
TP304 (REC C RF)
Q316 REC C RF BUFF
Q318 REC CHROMA LINEARITY CORRECT
RV302 REC C LEVEL
LPF
IC301(1/4)
REC KILLER AMP
REC CHROMA OUT
202-5
PB CHROMA IN
202-4
⑪
⑫
Q310 BUFF
SS 131-8
203-8
VIDEO RF OUT
VCA
MAIN CONV
ACC DET
BALANCE GET
C ROT IN
H:EE/PB
H:PB/EE (Q309)
Q309
H:AGC ON PB
202-2
203-4
203-3
SS 131-4
SS 131-3
Q127 POWER STABILIZER
PB (SP)
REC
COMPOSITE SYNC
IC402 +9V REG
+12V
+9V
IC401 -5V REG
-6V
-5V
A
B
C
D
E

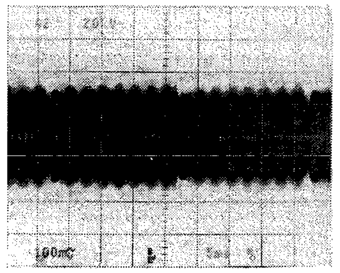

1/5)
RF AGC
FM DEMOD
33
ENV DET
DROPOUT DET
27
IC101(2/5)
35
DE-EMPHA EXP
PB
EE
6
H;EE/PB
44
LOGIC
Q123-126
LINEARITY CORRECT
AGC ON
H;PB/EE
H;AGC ON PB
IC104
2
3
7
4
Q121
Y LPF
TP106
(Y OUT)
5
AGC OFF
Q101-103
AGC OFF Y AMP
7
RV101
MANUAL Y LEVEL
RV107
AGC Y LEVEL
IC101(3/5)
AGC & AGC DET
EE
PB
45
NOISE CANCELL
Y/C MIX
SHARPNESS CONT
SYNC SEP
IC103
Q120
SYNC SEP
40
IC101(4/5)
12
8
9
DROPOUT COMP
DETAIL LINEARITY
VIDEO AMP
14
CORR DETECTOR
SUB Y AMP
10
11
LIMITTER SW
IC101(5/5)
16
NONLIEAR DE-EMPHA
NONLIEAR EMPHA
MAIN PRE-EMPHA
17
H P F
LIMITER
EMPHA
18
22
23
RV110:DARK CLIP
RV111:WHITE CLIP
TP105
(EMPHA)
8
20
RV108
Q114
C ROT
HALF H SHIFT
21
RV109
FM MOD
24
RV108:FM DEVIATION
RV109:CARRIER SET
RV105
REC Y LEVEL
HPF & TRAP
Q113
Y-FM BUFF
TP103
(REC Y RF)
9
REC Y RF OUT
202-8
E
IC301(1/4)
27
LPF
REC KILLER AMP
REC
PB
VCA
MAIN CONV
ACC DET
BALANCE GET
2
Q317
REC/PB TRAP
H;EE/PB
FL302
4.43MHz BPF
Q311-313
REC/PB CHROMA PHASE
13
IC301(2/4)
30
2H COMB DRIVE
25
IC301(3/4)
23
PB KILLER AMP
21
Q127
10
POWER STABILIZER
PB (SP)
REC
OSITE SYNC
H;PB/EE
(Q309)
Q307
FH/2 TRAP
16
IC301(4/4)
REC
PB(SP)
PB APC PHASE DET
PB
321fH VCO
REC AFC DET
PB DISCRI
24
ID DET& COLOR KILLER PHASE DET
REC APC PHASE DET
X'TAL OSC
3fsc GEN
SUB CONV
PHASE SHIFT
18
13,14
11
8
7
X301
Q301
4.43MHz OSC
FL301
5.06MHz BPF
VO-48A
SVO-915P

VIDEO SYSTEM
SVO-915P (1)

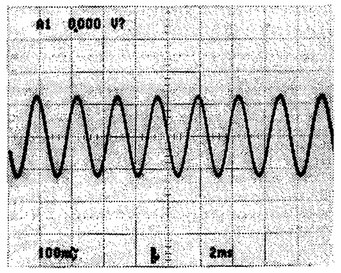
① CN804 pin 1 REC mode



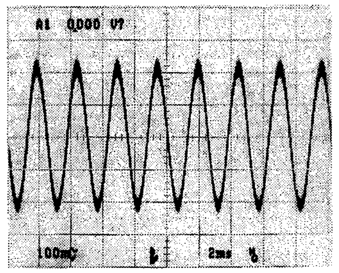
② TP101/201 PB mode



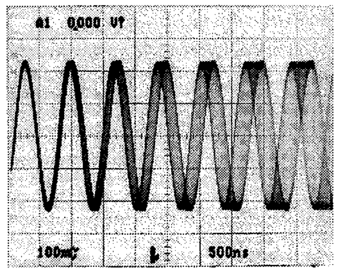
③ TP103/203 EE mode



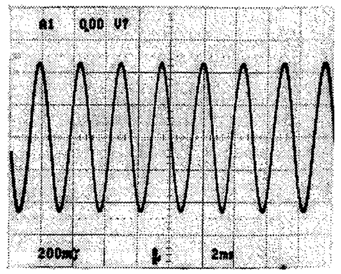
TP103/203 PB mode



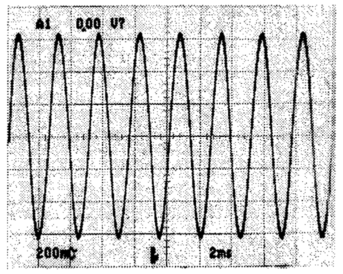
④ TP5/6 EE mode



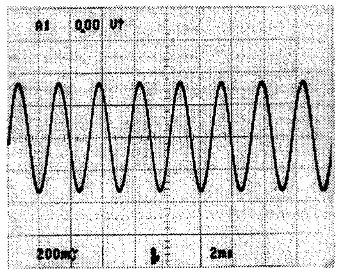
⑤ TP111/211 EE/PB mode



⑥ TP107/207 PB mode



⑦ TP108/208 PB mode



Measurement Condition

CH-1, AUDIO IN: 400 Hz, −10 dBu
PB mode: KRV-35PF
PB mode: KRV-31PS

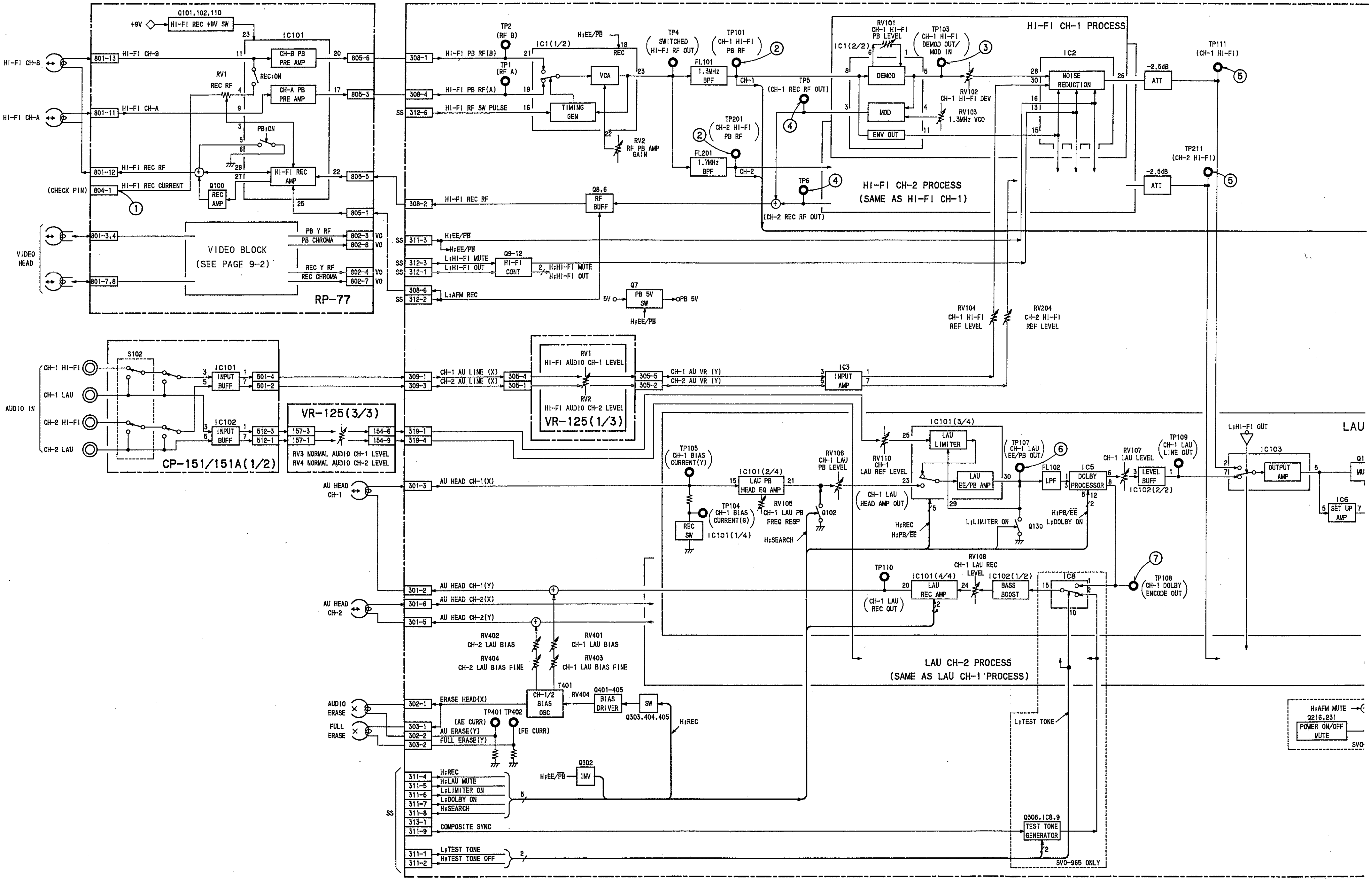
RP-77 (1-651-146-11)

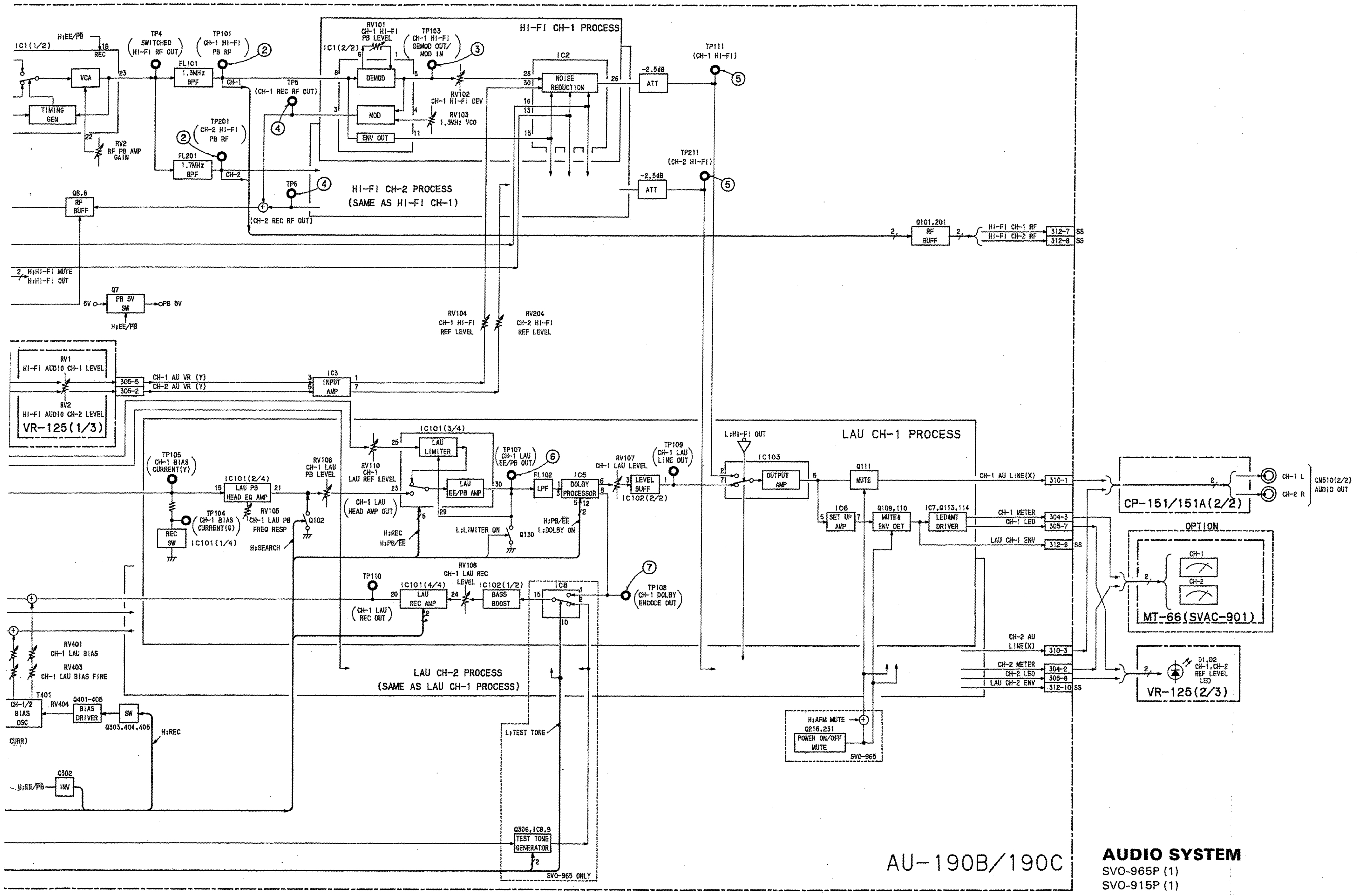
CN801	C-2
CN802	B-1
CN803	A-1
CN804	C-1
CN805	D-1

AU-190B/190C (1-650-149-12)

TP1	A-3
TP2	A-3
TP4	B-1
TP5	B-2
TP6	B-2
TP101	A-1
TP103	B-1
TP104	K-2
TP105	K-2
TP107	J-1
TP108	G-3
TP110	K-2
TP111	D-1
TP201	B-3
TP203	A-2
TP204	I-2
TP205	I-2
TP207	G-2
TP208	E-1
TP210	I-2
TP211	C-2
TP401	L-4
TP402	L-4

AUDIO SYSTEM

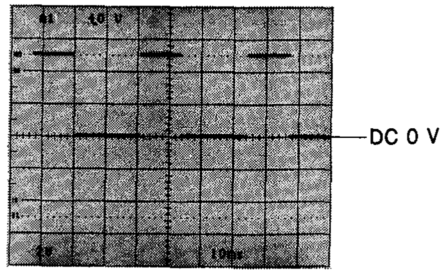

RP-77
Q101,102,110
HI-FI REC +9V SW
IC101
CH-B PB PRE AMP
CH-A PB PRE AMP
HI-FI REC AMP
REC:ON
PB:ON
RV1 REC RF
Q100 REC AMP
HI-FI CH-B
HI-FI CH-A
HI-FI REC RF
HI-FI REC CURRENT
(CHECK PIN)
VIDEO HEAD
VIDEO BLOCK (SEE PAGE 9-2)
PB Y RF
PB CHROMA
REC Y RF
REC CHROMA
TP2 (RF B)
TP1 (RF A)
HI-FI PB RF(B)
HI-FI PB RF(A)
HI-FI RF SW PULSE
HI-FI REC RF
IC1(1/2)
VCA
TIMING GEN
RV2 RF PB AMP GAIN
H:EE/PB
TP4 (SWITCHED HI-FI RF OUT)
TP101 (CH-1 HI-FI PB RF)
FL101 1.3MHz BPF
TP201 (CH-2 HI-FI PB RF)
FL201 1.7MHz BPF
TP5 (CH-1 REC RF OUT)
TP6
(CH-2 REC RF OUT)
Q8,6 RF BUFF
HI-FI CH-1 PROCESS
RV101 CH-1 HI-FI PB LEVEL
TP103 (CH-1 HI-FI DEMOD OUT/ MOD IN)
IC1(2/2)
DEMOD
MOD
ENV OUT
RV102 CH-1 HI-FI DEV
RV103 1.3MHz VCO
IC2
NOISE REDUCTION
-2.5dB ATT
TP111 (CH-1 HI-FI)
TP211 (CH-2 HI-FI)
HI-FI CH-2 PROCESS (SAME AS HI-FI CH-1)
H:EE/PB
L:HI-FI MUTE
L:HI-FI OUT
Q9-12 HI-FI CONT
H:HI-FI MUTE
H:HI-FI OUT
L:AFM REC
Q7 PB 5V SW
5V
PB 5V
RV104 CH-1 HI-FI REF LEVEL
RV204 CH-2 HI-FI REF LEVEL
AUDIO IN
CH-1 HI-FI
CH-1 LAU
CH-2 HI-FI
CH-2 LAU
S102
IC101 INPUT BUFF
IC102 INPUT BUFF
CP-151/151A(1/2)
VR-125(3/3)
RV3 NORMAL AUDIO CH-1 LEVEL
RV4 NORMAL AUDIO CH-2 LEVEL
CH-1 AU LINE (X)
CH-2 AU LINE (X)
RV1 HI-FI AUDIO CH-1 LEVEL
RV2 HI-FI AUDIO CH-2 LEVEL
VR-125(1/3)
CH-1 AU VR (Y)
CH-2 AU VR (Y)
IC3 INPUT AMP
AU HEAD CH-1
AU HEAD CH-2
AU HEAD CH-1(X)
AU HEAD CH-1(Y)
AU HEAD CH-2(X)
AU HEAD CH-2(Y)
TP105 (CH-1 BIAS CURRENT(Y))
TP104 (CH-1 BIAS CURRENT(G))
REC SW
IC101(1/4)
IC101(2/4) LAU PB HEAD EQ AMP
RV105 CH-1 LAU PB FREQ RESP
RV106 CH-1 LAU PB LEVEL
Q102
H:SEARCH
RV110 CH-1 LAU REF LEVEL
IC101(3/4) LAU LIMITER
(CH-1 LAU HEAD AMP OUT)
LAU EE/PB AMP
H:REC
H:PB/EE
TP107 (CH-1 LAU EE/PB OUT)
L:LIMITER ON
Q130
FL102 LPF
IC5 DOLBY PROCESSOR
H:PB/EE
L:DOLBY ON
RV107 CH-1 LAU LEVEL
LEVEL BUFF
IC102(2/2)
TP109 (CH-1 LAU LINE OUT)
L:HI-FI OUT
IC103 OUTPUT AMP
IC6 SET UP AMP
LAU
Q1
MU
TP110 (CH-1 LAU REC OUT)
IC101(4/4) LAU REC AMP
RV108 CH-1 LAU REC LEVEL
IC102(1/2) BASS BOOST
IC8
TP108 (CH-1 DOLBY ENCODE OUT)
LAU CH-2 PROCESS (SAME AS LAU CH-1 PROCESS)
RV402 CH-2 LAU BIAS
RV404 CH-2 LAU BIAS FINE
RV401 CH-1 LAU BIAS
RV403 CH-1 LAU BIAS FINE
T401
CH-1/2 BIAS OSC
RV404
Q401-405 BIAS DRIVER
SW
Q303,404,405
H:REC
AUDIO ERASE
FULL ERASE
ERASE HEAD(X)
TP401 TP402
(AE CURR)
(FE CURR)
AU ERASE(Y)
FULL ERASE(Y)
Q302 INV
H:EE/PB
H:REC
H:LAU MUTE
L:LIMITER ON
L:DOLBY ON
H:SEARCH
COMPOSITE SYNC
L:TEST TONE
H:TEST TONE OFF
SS
L:TEST TONE
Q306,IC8,9 TEST TONE GENERATOR
SVO-965 ONLY
H:AFM MUTE
Q216,231
POWER ON/OFF MUTE
SVO


IC1(1/2)
H;EE/PB
18
REC
23
22
VCA
TIMING GEN
RV2
RF PB AMP GAIN
TP4
(SWITCHED HI-FI RF OUT)
TP101
(CH-1 HI-FI PB RF)
②
FL101
1.3MHz BPF
CH-1
TP201
(CH-2 HI-FI PB RF)
②
FL201
1.7MHz BPF
CH-2
TP5
(CH-1 REC RF OUT)
④
TP6
④
(CH-2 REC RF OUT)
HI-FI CH-1 PROCESS
IC1(2/2)
RV101
CH-1 HI-FI PB LEVEL
TP103
(CH-1 HI-FI DEMOD OUT/ MOD IN)
③
DEMOD
MOD
ENV OUT
RV102
CH-1 HI-FI DEV
RV103
1.3MHz VCO
IC2
NOISE REDUCTION
28
30
16
131
15
26
-2.5dB
ATT
TP111
(CH-1 HI-FI)
⑤
TP211
(CH-2 HI-FI)
⑤
HI-FI CH-2 PROCESS
(SAME AS HI-FI CH-1)
Q8,6
RF BUFF
2, H;HI-FI MUTE
H;HI-FI OUT
Q7
5V
PB 5V SW
PB 5V
H;EE/PB
Q101,201
RF BUFF
HI-FI CH-1 RF
HI-FI CH-2 RF
312-7 SS
312-8 SS
RV104
CH-1 HI-FI REF LEVEL
RV204
CH-2 HI-FI REF LEVEL
RV1
HI-FI AUDIO CH-1 LEVEL
RV2
HI-FI AUDIO CH-2 LEVEL
VR-125(1/3)
305-5
305-2
CH-1 AU VR (Y)
CH-2 AU VR (Y)
IC3
INPUT AMP
TP105
(CH-1 BIAS CURRENT(Y))
IC101(2/4)
LAU PB HEAD EQ AMP
15
21
TP104
(CH-1 BIAS CURRENT(G))
RV105
CH-1 LAU PB FREQ RESP
REC SW
IC101(1/4)
RV106
CH-1 LAU PB LEVEL
Q102
H;SEARCH
IC101(3/4)
LAU LIMITER
LAU EE/PB AMP
RV110
CH-1
LAU REF LEVEL
(CH-1 LAU HEAD AMP OUT)
H;REC
H;PB/EE
L;LIMITER ON
Q130
TP107
(CH-1 LAU EE/PB OUT)
⑥
FL102
LPF
IC5
DOLBY PROCESSOR
H;PB/EE
L;DOLBY ON
RV107
CH-1 LAU LEVEL
LEVEL BUFF
IC102(2/2)
TP109
(CH-1 LAU LINE OUT)
TP110
(CH-1 LAU REC OUT)
IC101(4/4)
LAU REC AMP
RV108
CH-1 LAU REC LEVEL
IC102(1/2)
BASS BOOST
IC8
⑦
TP108
(CH-1 DOLBY ENCODE OUT)
LAU CH-2 PROCESS
(SAME AS LAU CH-1 PROCESS)
L;TEST TONE
Q306,IC8,9
TEST TONE GENERATOR
SVO-965 ONLY
RV401
CH-1 LAU BIAS
RV403
CH-1 LAU BIAS FINE
T401
CH-1/2 BIAS OSC
RV404
Q401-405
BIAS DRIVER
SW
Q303,404,405
H;REC
CURR)
Q302
H;EE/PB
INV
LAU CH-1 PROCESS
L;HI-FI OUT
IC103
OUTPUT AMP
Q111
MUTE
IC6
SET UP AMP
Q109,110
MUTE& ENV DET
IC7,Q113,114
LED&MT DRIVER
CH-1 AU LINE(X)
310-1
CH-1 METER
304-3
CH-1 LED
305-7
LAU CH-1 ENV
312-9 SS
CH-2 AU LINE(X)
310-3
CH-2 METER
304-2
CH-2 LED
305-8
LAU CH-2 ENV
312-10 SS
H;AFM MUTE
Q216,231
POWER ON/OFF MUTE
SVO-965
CP-151/151A(2/2)
CH-1 L
CH-2 R
CN510(2/2)
AUDIO OUT
OPTION
CH-1
CH-2
MT-66(SVAC-901)
D1,D2
CH-1,CH-2
REF LEVEL
LED
VR-125(2/3)
AU-190B/190C

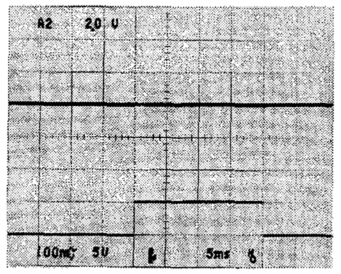
AUDIO SYSTEM

SVO-965P (1)
SVO-915P (1)

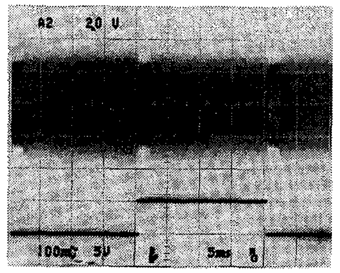
① TP101 REC/PB mode



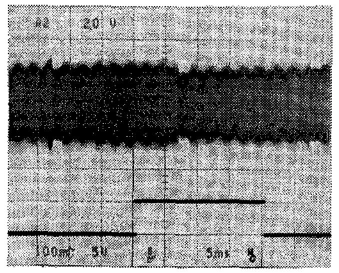
② TP1 (V-RF) REC mode



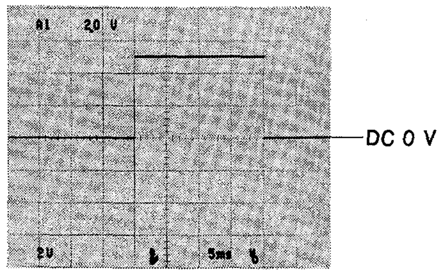
TP1 (V-RF) PB mode



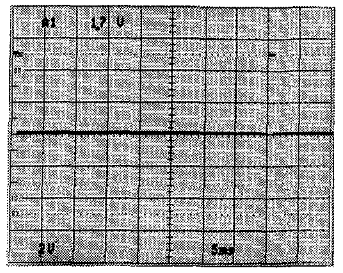
③ TP1 (HI-FI CH-2) PB mode



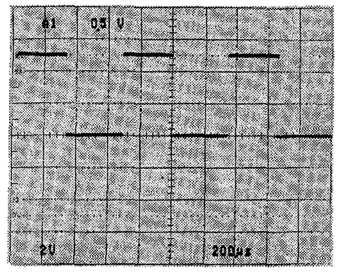
④ TP1 (PG) REC/PB mode



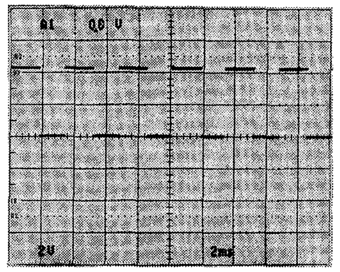
⑤ TP104 REC mode



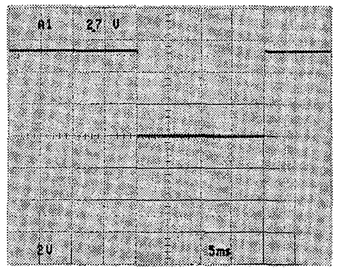
⑥ TP103 REC mode



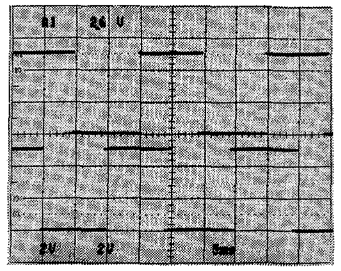
⑦ TP113 REC mode



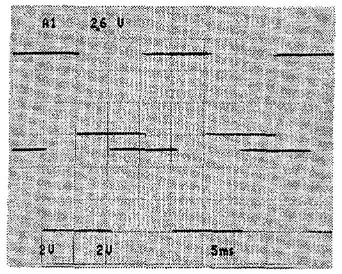
⑧ TP111 REC mode



⑨ TP302 EE mode
TP309 EE mode



⑩ TP303 EE mode
TP310 EE mode

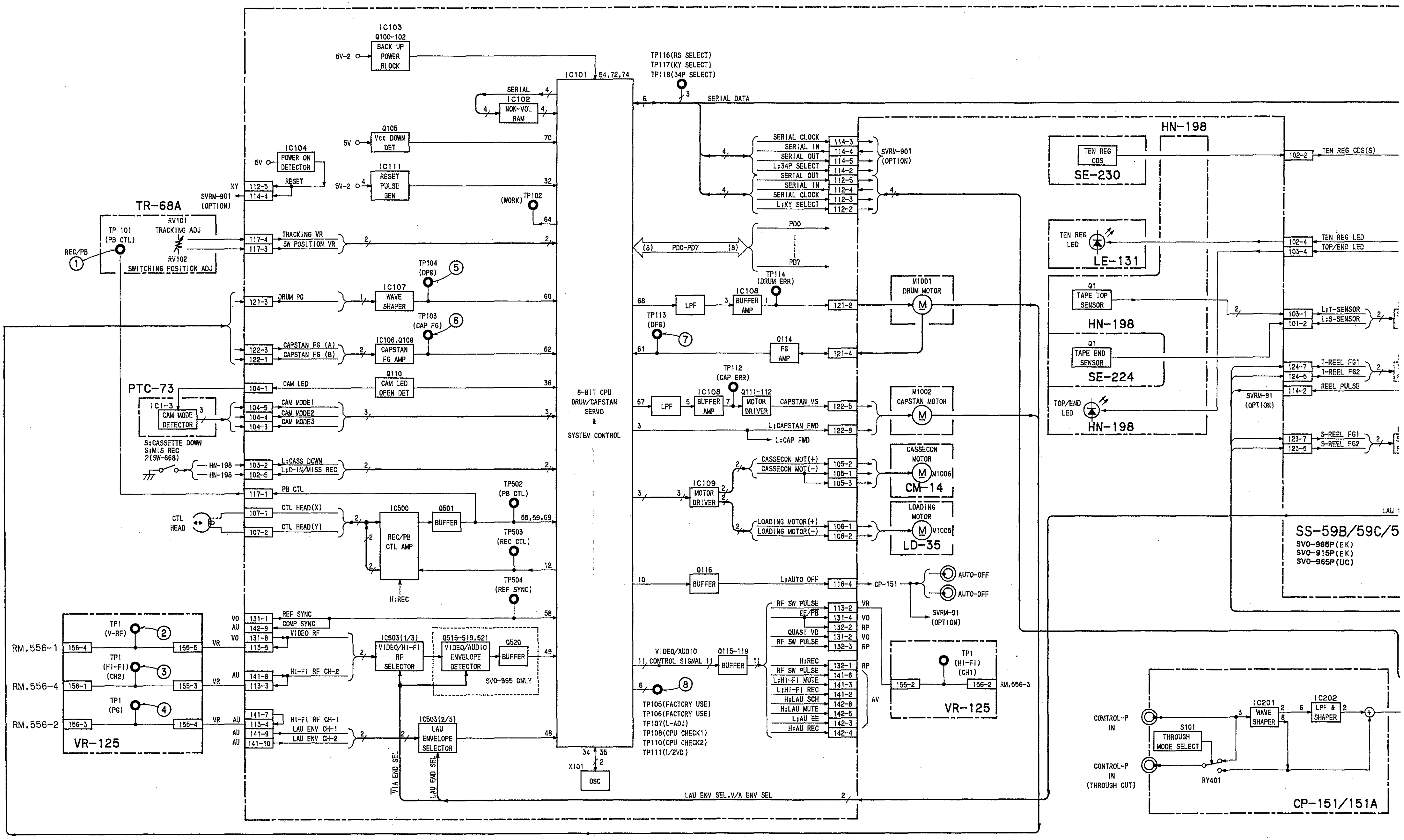


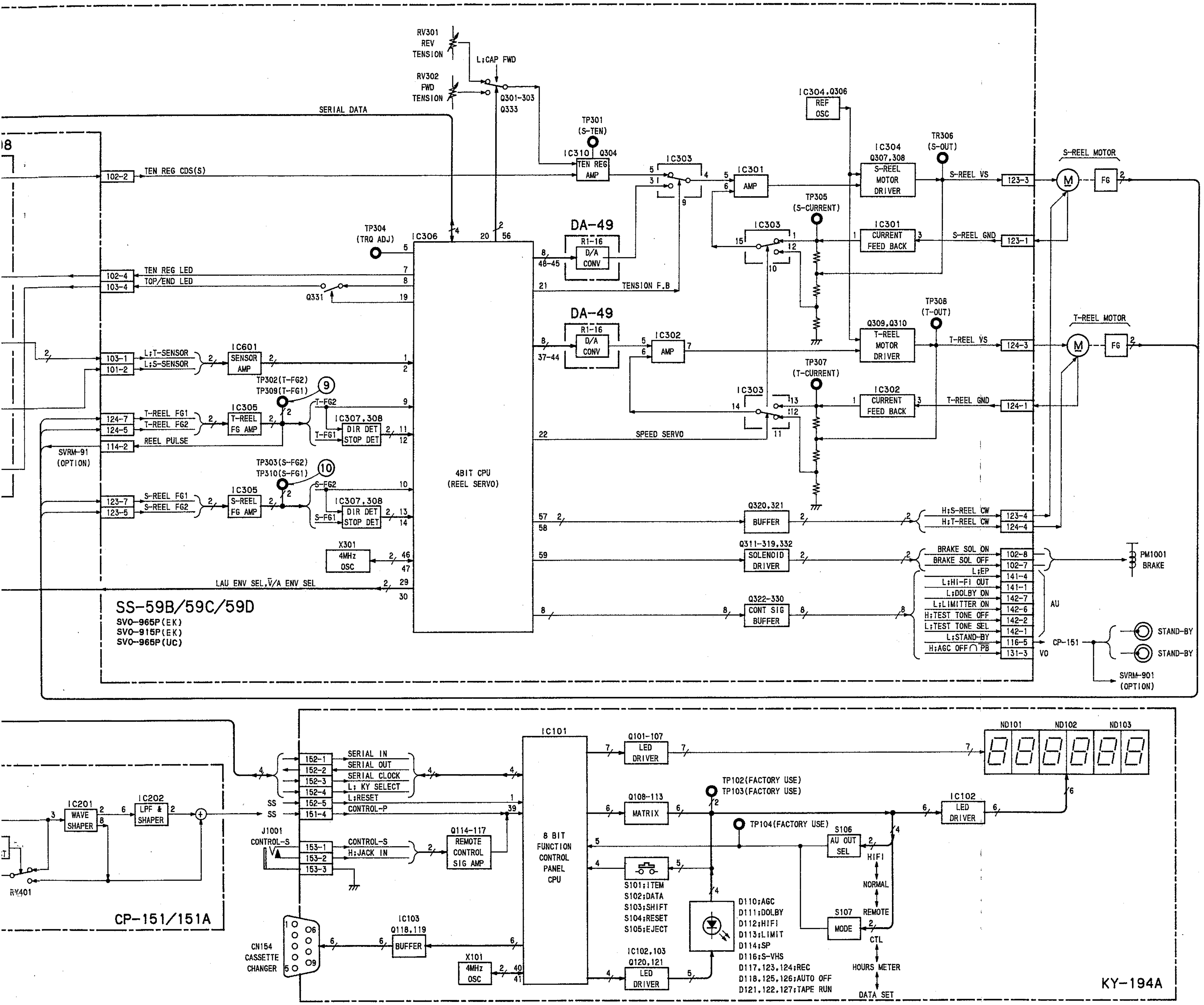
Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

SS-59B/59C/59D (1-650-150-12, 13)

TP106	J-7
TP107	E-9
TP111	J-8
TP301	B-9
TP304	E-9
TP305	C-9
TP307	C-9

SERVO/SYSTEM CONTROL


IC103
Q100-102
BACK UP POWER BLOCK
5V-2
IC101
54,72,74
SERIAL
IC102
NON-VOL RAM
Q105
Vcc DOWN DET
5V
IC104
POWER ON DETECTOR
RESET
KY
112-5
114-4
SVRM-901 (OPTION)
IC111
RESET PULSE GEN
(WORK) TP102
TR-68A
TP 101 (PB CTL)
RV101 TRACKING ADJ
RV102 SWITCHING POSITION ADJ
REC/PB
①
117-4
117-3
TRACKING VR
SW POSITION VR
TP104 (DPG) ⑤
IC107 WAVE SHAPER
121-3
DRUM PG
TP103 (CAP FG) ⑥
IC106,Q109 CAPSTAN FG AMP
122-3
122-1
CAPSTAN FG (A)
CAPSTAN FG (B)
Q110 CAM LED OPEN DET
104-1
CAM LED
PTC-73
IC1-3
CAM MODE DETECTOR
104-5
104-4
104-3
CAM MODE1
CAM MODE2
CAM MODE3
S:CASSETTE DOWN
S:MIS REC
2(SW-668)
HN-198
103-2
102-5
L:CASS DOWN
L:C-IN/MISS REC
117-1
PB CTL
TP502 (PB CTL)
CTL HEAD
107-1
107-2
CTL HEAD(X)
CTL HEAD(Y)
IC500
REC/PB CTL AMP
Q501 BUFFER
55,59,69
TP503 (REC CTL)
TP504 (REF SYNC)
H:REC
TP1 (V-RF) ②
TP1 (HI-FI) (CH2) ③
TP1 (PG) ④
RM,556-1
RM,556-4
RM,556-2
156-4
156-1
156-3
155-5
155-3
155-4
VR-125
VO
AU
131-1
142-9
131-8
113-5
141-8
113-3
141-7
113-4
141-9
141-10
REF SYNC
COMP SYNC
VIDEO RF
HI-FI RF CH-2
HI-FI RF CH-1
LAU ENV CH-1
LAU ENV CH-2
IC503(1/3) VIDEO/HI-FI RF SELECTOR
Q515-519,521 VIDEO/AUDIO ENVELOPE DETECTOR
Q520 BUFFER
SVO-965 ONLY
IC503(2/3) LAU ENVELOPE SELECTOR
V/A END SEL
LAU END SEL
X101 OSC
LAU ENV SEL.V/A ENV SEL
8-BIT CPU DRUM/CAPSTAN SERVO & SYSTEM CONTROL
TP116(RS SELECT)
TP117(KY SELECT)
TP118(34P SELECT)
SERIAL DATA
SERIAL CLOCK
SERIAL IN
SERIAL OUT
L:34P SELECT
SERIAL OUT
SERIAL IN
SERIAL CLOCK
L:KY SELECT
114-3
114-4
114-5
114-2
112-5
112-4
112-3
112-2
SVRM-901 (OPTION)
PDO
PD7
(8) PDO-PD7 (8)
TP114 (DRUM ERR)
LPF
IC108 BUFFER AMP
121-2
M1001 DRUM MOTOR
TP113 (DFG) ⑦
Q114 FG AMP
121-4
TP112 (CAP ERR)
IC108 BUFFER AMP
Q111-112 MOTOR DRIVER
CAPSTAN VS
122-5
L:CAPSTAN FWD
L:CAP FWD
122-8
M1002 CAPSTAN MOTOR
IC109 MOTOR DRIVER
CASSECON MOT(+)
CASSECON MOT(-)
105-2
105-1
105-3
CASSECON MOTOR
M1006
CM-14
LOADING MOTOR(+)
LOADING MOTOR(-)
106-1
106-2
LOADING MOTOR
M1005
LD-35
Q116 BUFFER
L:AUTO OFF
116-4
CP-151
AUTO-OFF
SVRM-91 (OPTION)
RF SW PULSE
EE/PB
QUASI VD
RF SW PULSE
113-2
131-4
132-2
131-2
132-3
VR
VO
RP
VIDEO/AUDIO CONTROL SIGNAL
Q115-119 BUFFER
H:REC
RF SW PULSE
L:HI-FI MUTE
L:HI-FI REC
H:LAU SCH
H:LAU MUTE
L:AU EE
H:AU REC
132-1
141-6
141-3
141-2
142-8
142-5
142-3
142-4
AV
⑧
TP105(FACTORY USE)
TP106(FACTORY USE)
TP107(L-ADJ)
TP108(CPU CHECK1)
TP110(CPU CHECK2)
TP111(1/2VD)
TP1 (HI-FI) (CH1)
155-2
156-2
RM,556-3
VR-125
HN-198
TEN REG CDS
SE-230
102-2
TEN REG CDS(S)
TEN REG LED
LE-131
102-4
103-4
TEN REG LED
TOP/END LED
Q1 TAPE TOP SENSOR
HN-198
103-1
101-2
L:T-SENSOR
L:S-SENSOR
Q1 TAPE END SENSOR
SE-224
124-7
124-5
T-REEL FG1
T-REEL FG2
114-2
REEL PULSE
SVRM-91 (OPTION)
TOP/END LED
HN-198
123-7
123-5
S-REEL FG1
S-REEL FG2
LAU
SS-59B/59C/5
SVO-965P(EK)
SVO-915P(EK)
SVO-965P(UC)
CONTROL-P IN
CONTROL-P IN (THROUGH OUT)
S101 THROUGH MODE SELECT
RY401
IC201 WAVE SHAPER
IC202 LPF & SHAPER
CP-151/151A


RV301 REV TENSION
RV302 FWD TENSION
L:CAP FWD
Q301-303 Q333
SERIAL DATA
TP301 (S-TEN)
IC310 Q304 TEN REG AMP
IC303
IC301 AMP
IC304,Q306 REF OSC
IC304 Q307,308 S-REEL MOTOR DRIVER
TR306 (S-OUT)
S-REEL VS
S-REEL MOTOR
FG
TP305 (S-CURRENT)
IC301 CURRENT FEED BACK
S-REEL GND
TEN REG CDS(S)
TP304 (TRQ ADJ)
IC306
DA-49
R1-16 D/A CONV
TEN REG LED
TOP/END LED
Q331
TENSION F.B
TP308 (T-OUT)
T-REEL MOTOR
Q309,Q310 T-REEL MOTOR DRIVER
T-REEL VS
IC302 AMP
TP307 (T-CURRENT)
IC302 CURRENT FEED BACK
T-REEL GND
L:T-SENSOR
L:S-SENSOR
IC601 SENSOR AMP
TP302(T-FG2)
TP309(T-FG1)
T-REEL FG1
T-REEL FG2
IC305 T-REEL FG AMP
IC307,308 DIR DET STOP DET
REEL PULSE
SVRM-91 (OPTION)
SPEED SERVO
4BIT CPU (REEL SERVO)
TP303(S-FG2)
TP310(S-FG1)
S-REEL FG1
S-REEL FG2
IC305 S-REEL FG AMP
Q320,321 BUFFER
H:S-REEL CW
H:T-REEL CW
X301 4MHz OSC
Q311-319,332 SOLENOID DRIVER
BRAKE SOL ON
BRAKE SOL OFF
PM1001 BRAKE
LAU ENV SEL,V/A ENV SEL
Q322-330 CONT SIG BUFFER
L:EP
L:HI-FI OUT
L:DOLBY ON
L:LIMITTER ON
H:TEST TONE OFF
L:TEST TONE SEL
L:STAND-BY
H:AGC OFF∩PB
AU
VO
CP-151
STAND-BY
SVRM-901 (OPTION)
SS-59B/59C/59D
SVO-965P(EK)
SVO-915P(EK)
SVO-965P(UC)
IC201 WAVE SHAPER
IC202 LPF & SHAPER
RV401
CP-151/151A
SERIAL IN
SERIAL OUT
SERIAL CLOCK
L: KY SELECT
L:RESET
CONTROL-P
J1001 CONTROL-S
CONTROL-S
H:JACK IN
Q114-117 REMOTE CONTROL SIG AMP
CN154 CASSETTE CHANGER
IC103 Q118,119 BUFFER
X101 4MHz OSC
IC101
8 BIT FUNCTION CONTROL PANEL CPU
Q101-107 LED DRIVER
Q108-113 MATRIX
TP102(FACTORY USE)
TP103(FACTORY USE)
TP104(FACTORY USE)
S101:ITEM
S102:DATA
S103:SHIFT
S104:RESET
S105:EJECT
IC102,103 Q120,121 LED DRIVER
D110:AGC
D111:DOLBY
D112:HIFI
D113:LIMIT
D114:SP
D116:S-VHS
D117,123,124:REC
D118,125,126:AUTO OFF
D121,122,127:TAPE RUN
S106 AU OUT SEL
HIFI
NORMAL
REMOTE
S107 MODE
CTL
HOURS METER
DATA SET
IC102 LED DRIVER
ND101 ND102 ND103
KY-194A

SERVO/SYSTEM CONTROL

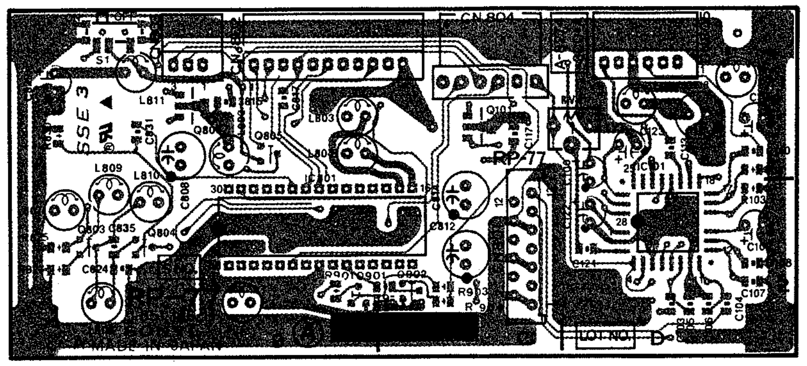
SVO-965P (EK) (1)
SVO-915P (EK) (1)
SVO-965P (UC) (1)

SECTION 10
SCHEMATIC DIAGRAMS AND BOARD LAYOUTS

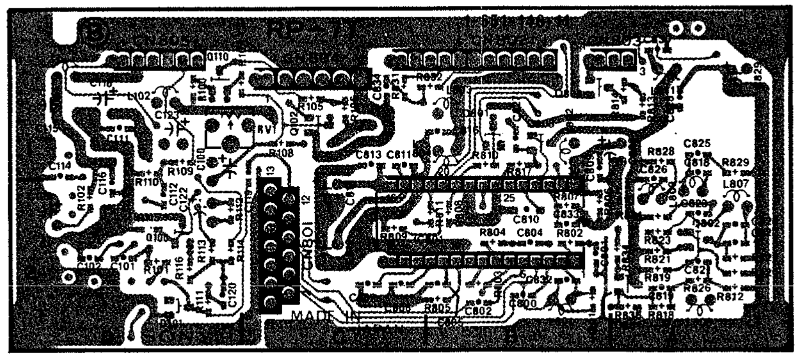
CIRCUIT FUNCTION OF THE PRINTED CIRCUIT BOARD

SYSTEM	BOARD		CIRCUIT FUNCTION
	SVO-965P	SVO-915P	
VIDEO	RP-77	RP-77	Video/AFM Head Amp
	VO-48	VO-48A	Y/C Video Process
	DL-44	——	Y/C Separator
AUDIO	AU-190B	AU-190C	HiFi Process/Normal Audio Process
	AH-28	AH-28	Audio/Erase/CTL Head
	CP-151	CP-151A	Connector Panel
	VR-125	VR-125	Audio Level Control
SERVO SYSTEM CONTROL	SS-59B	SS-59C	Servo, System Control
	UC : SS-59D		
	DA-49	DA-49	DA Converter
	CM-14	CM-14	Cassette Compartment Motor
	LD-35	LD-35	Loading Motor
	LE-131	LE-131	Tension Regulator LED
	PTC-73	PTC-73	Cam Mode Detect
	KY-194A	KY-194A	Function Key Board
	SE-224	SE-224	Tape End Sensor
	HN-198	HN-198	Tape Top Sensor, Tape Top/End LED, Connection
	SE-230	SE-230	Tension Regulator CDS Detect
	SW-668	SW-668	Miss REC
	TR-68A	TR-68A	Tracking/Switching Position Volume
POWER	AC-103A	AC-103A	AC Inlet
	UC : AC-103		Switching Regulator

RP-77; VIDEO/AFM HEAD AMP



RP-77 — A SIDE —
1-651-146-11 (1)
SVO-965P
SVO-915P



RP-77 — B SIDE —
1-651-146-11 (1)
SVO-965P
SVO-915P

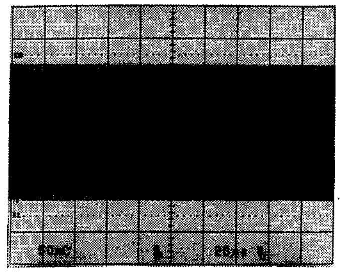
RP-77 (1-651-146-11)

CN801	C-2	
CN802	B-1	
CN803	A-1	
CN804	C-1	
CN805	D-1	
D101	D-2	*
D801	B-1	
IC101	D-1	
IC801	B-1	
Q100	D-2	*
Q101	C-1	
Q102	C-1	*
Q110	D-1	*
Q801	A-2	*
Q802	A-2	*
Q803	A-2	
Q804	A-2	
Q805	B-1	
Q806	B-1	
Q807	B-1	*
Q808	B-1	*
Q901	B-2	
Q902	C-2	
RV1	D-1	
S1	A-1	

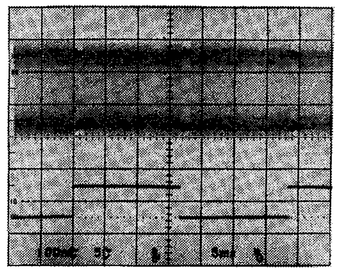
* mark; B SIDE mount

RP-77; VIDEO/AFM HEAD AMP

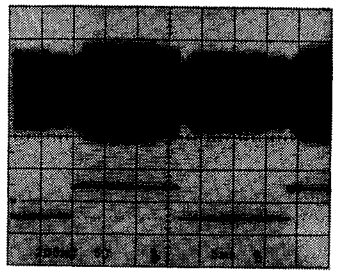
① CN804 pin 1 REC mode



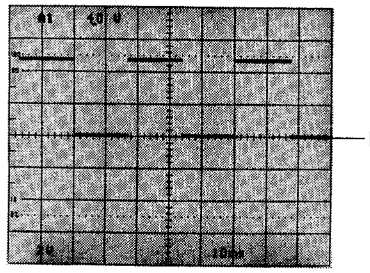
② CN804 pin 3 REC mode
CN804 pin 5 (TRIG)



③ CN804 pin 4 PB mode
CN804 pin 5 (TRIG)



④ CN804 pin 5 REC mode

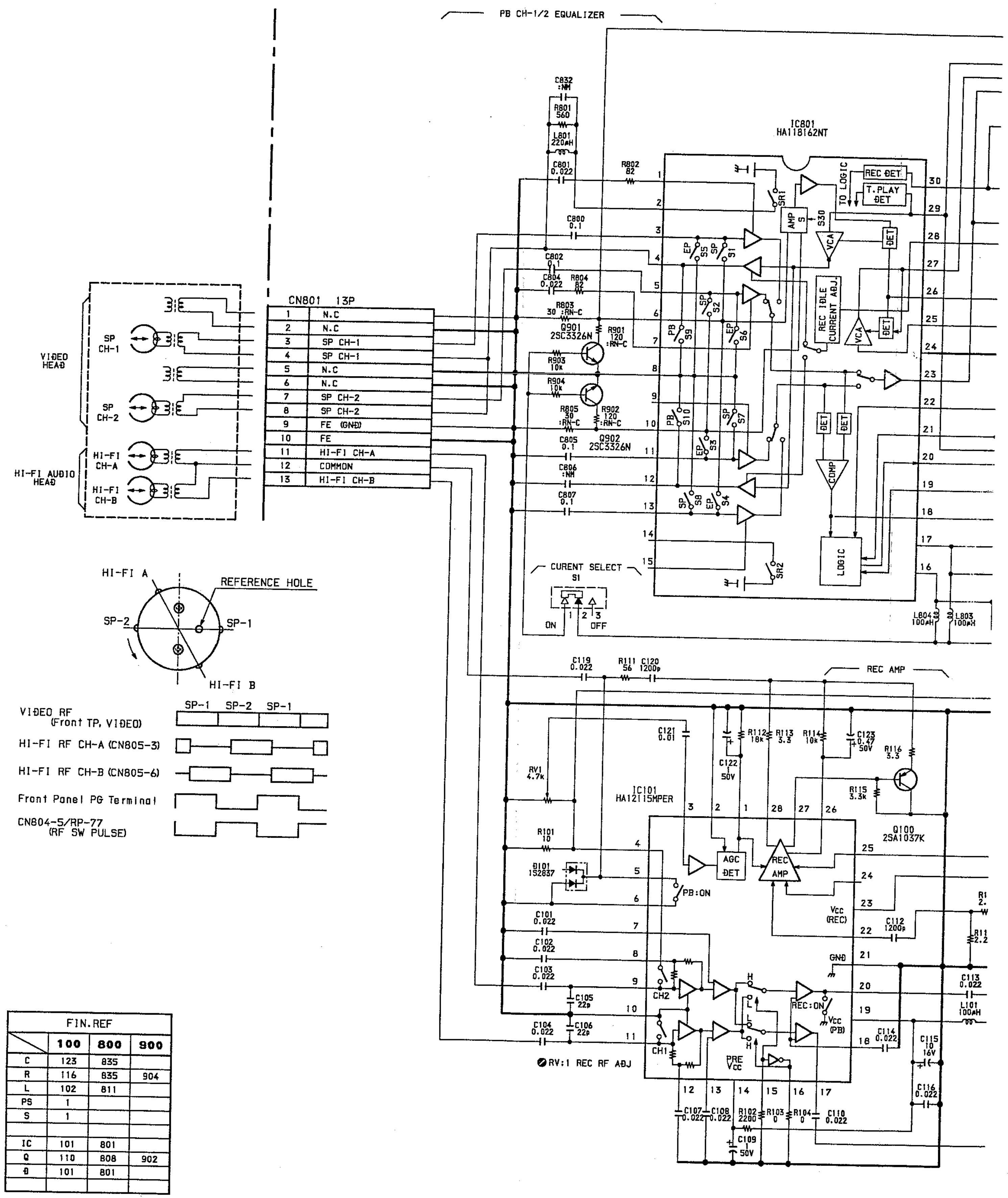


Measurement Condition

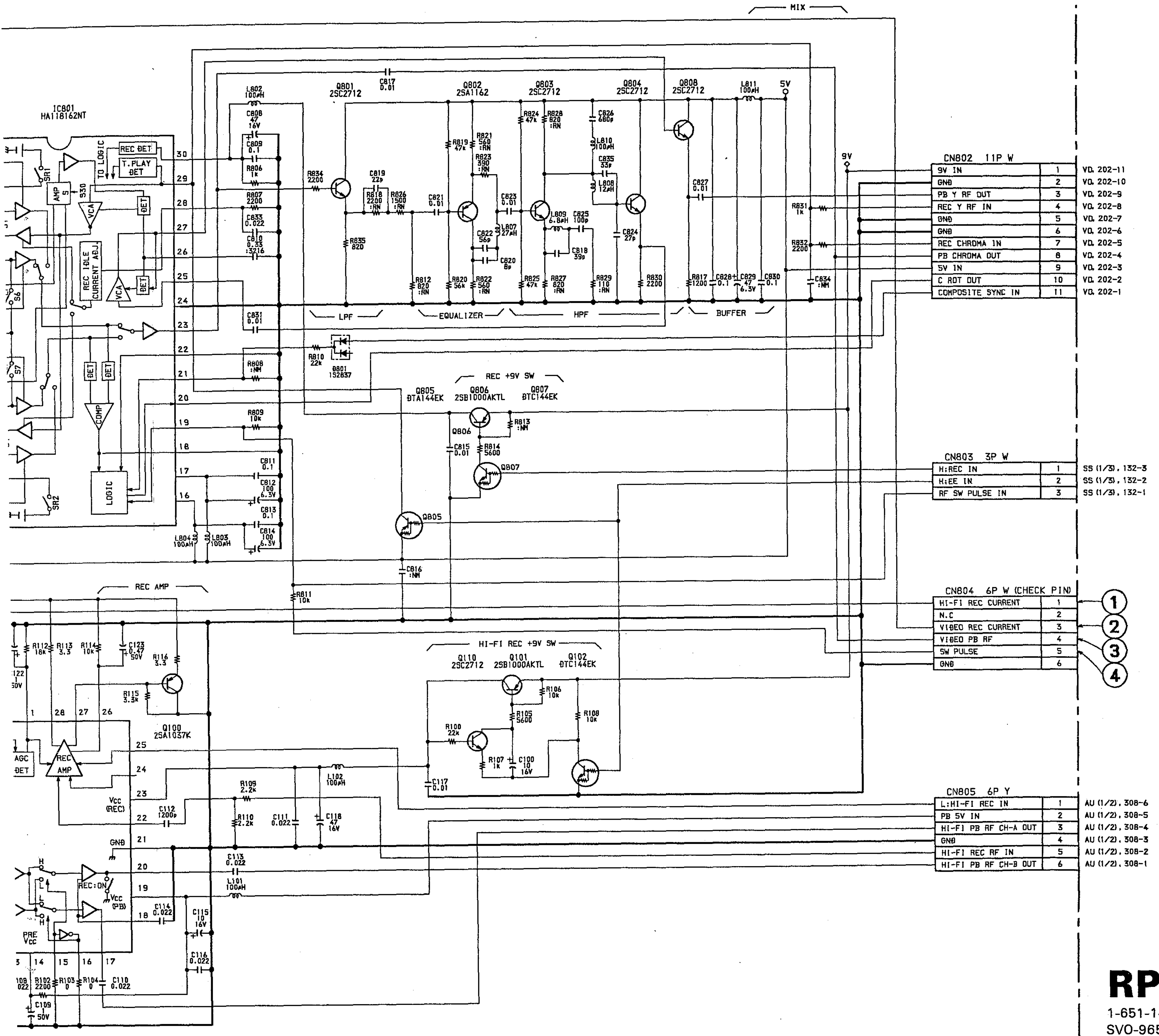
VIDEO IN: 75 % color bars
CH-1, AUDIO IN: 400 Hz, −6 dBu
PB mode: KRV-35PF

RP-77 (1-651-146-11)

CN801	C-2
CN802	B-1
CN803	A-1
CN804	C-1
CN805	D-1


PB CH-1/2 EQUALIZER
IC801
HA118162NT
C832 :NM
R801 560
L801 220μH
C801 0.022
R802 82
C800 0.1
C802 0.1
C804 0.022
R804 82
R803 30 :RN-C
Q901 2SC3326N
R901 120 :RN-C
R903 10k
R904 10k
R805 30 :RN-C
R902 120 :RN-C
C805 0.1
Q902 2SC3326N
C806 :NM
C807 0.1
REC DET
T.PLAY DET
TO LOGIC
AMP S
VCA
DET
REC IDLE CURRENT ADJ
COMP
LOGIC
CURENT SELECT S1
ON
OFF
L804 100μH
L803 100μH
VIDEO HEAD
SP CH-1
SP CH-2
HI-FI AUDIO HEAD
HI-FI CH-A
HI-FI CH-B
CN801 13P
1 N.C
2 N.C
3 SP CH-1
4 SP CH-1
5 N.C
6 N.C
7 SP CH-2
8 SP CH-2
9 FE (GND)
10 FE
11 HI-FI CH-A
12 COMMON
13 HI-FI CH-B
HI-FI A
REFERENCE HOLE
SP-2
SP-1
HI-FI B
SP-1 SP-2 SP-1
VIDEO RF (Front TP, VIDEO)
HI-FI RF CH-A (CN805-3)
HI-FI RF CH-B (CN805-6)
Front Panel PG Terminal
CN804-5/RP-77 (RF SW PULSE)
C119 0.022
R111 56
C120 1200p
REC AMP
C121 0.01
C122 50V
R112 18k
R113 3.3
R114 10k
C123 0.47 50V
R116 3.3
RV1 4.7k
IC101 HA12115MPER
R115 3.3k
Q100 2SA1037K
R101 10
D101 1S2837
AGC DET
REC AMP
PB:ON
Vcc (REC)
C112 1200p
C101 0.022
C102 0.022
C103 0.022
C105 22p
C104 0.022
C106 22p
CH2
CH1
REC:ON
Vcc (PB)
GND
PRE Vcc
C113 0.022
L101 100μH
C114 0.022
C115 10 16V
C116 0.022
RV:1 REC RF ADJ
C107 0.022
C108 0.022
R102 2200
R103 0
R104 0
C110 0.022
C109 50V

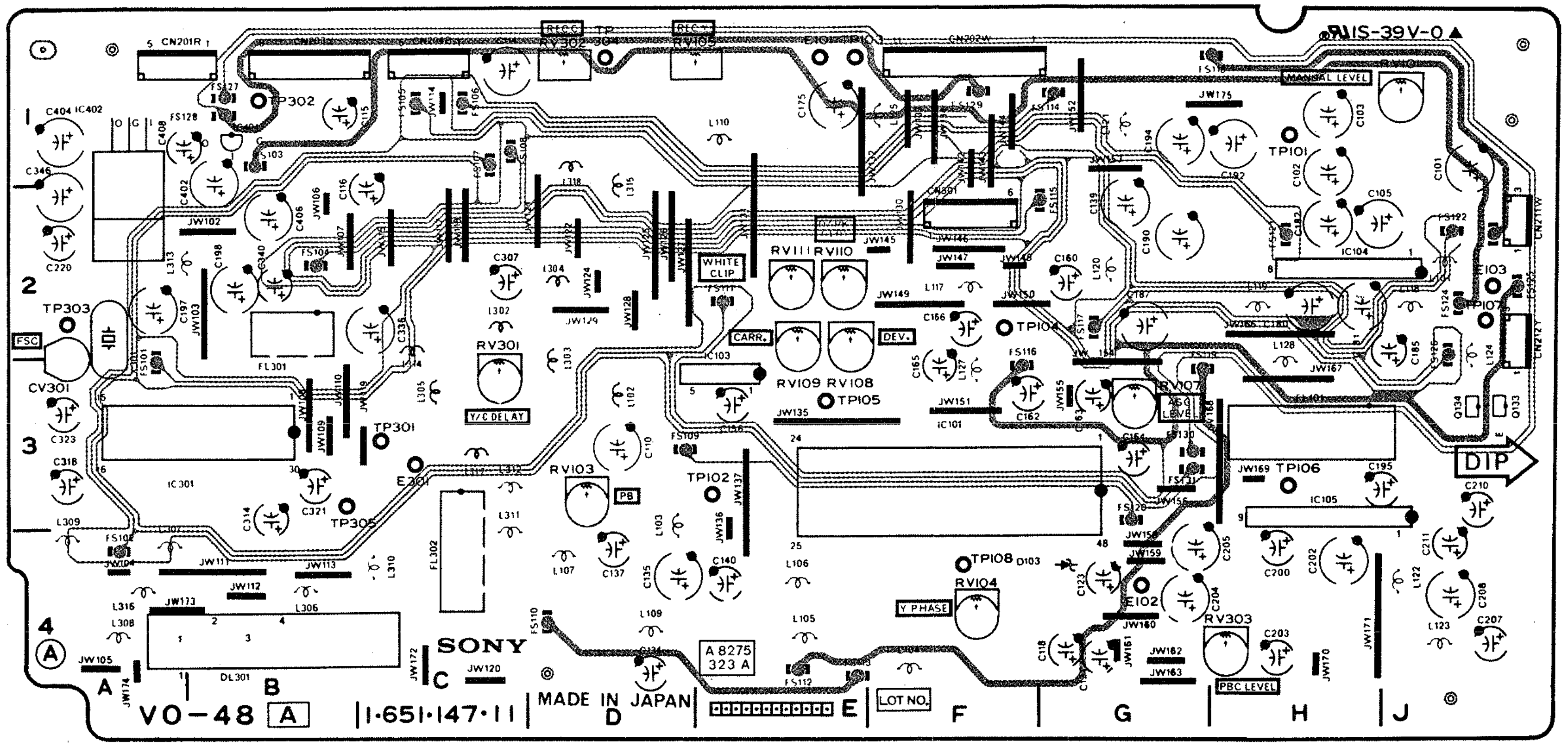
FIN.REF	100	800	900
C	123	835	
R	116	835	904
L	102	811	
PS	1		
S	1		
IC	101	801	
Q	110	808	902
D	101	801	

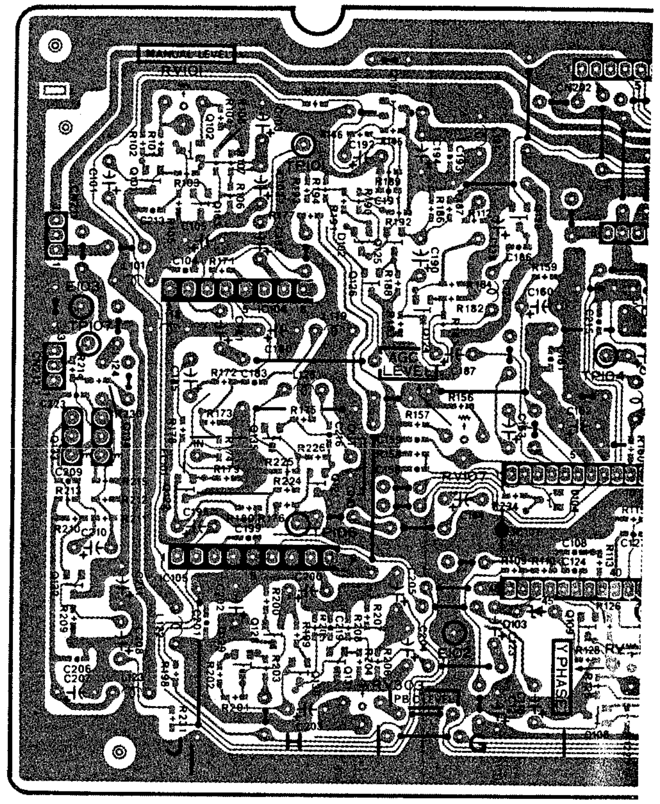

MIX
IC801
HA118162NT
REC DET
T.PLAY DET
TO LOGIC
VCA
DET
COMP
LOGIC
REC IDLE CURRENT ADJ.
Q801
2SC2712
Q802
2SA1162
Q803
2SC2712
Q804
2SC2712
Q808
2SC2712
L811
100μH
5V
9V
LPF
EQUALIZER
HPF
BUFFER
D801
1S2837
REC +9V SW
Q805
DTA144EK
Q806
2SB1000AKTL
Q807
DTC144EK
REC AMP
HI-FI REC +9V SW
Q110
2SC2712
Q101
2SB1000AKTL
Q102
DTC144EK
Q100
2SA1037K
AGC DET
REC AMP
Vcc (REC)
GND
REC:ON
Vcc (PB)
PRE Vcc
CN802 11P W
9V IN 1 VD. 202-11
GND 2 VD. 202-10
PB Y RF OUT 3 VD. 202-9
REC Y RF IN 4 VD. 202-8
GND 5 VD. 202-7
GND 6 VD. 202-6
REC CHROMA IN 7 VD. 202-5
PB CHROMA OUT 8 VD. 202-4
5V IN 9 VD. 202-3
C ROT OUT 10 VD. 202-2
COMPOSITE SYNC IN 11 VD. 202-1
CN803 3P W
H;REC IN 1 SS (1/3), 132-3
H;EE IN 2 SS (1/3), 132-2
RF SW PULSE IN 3 SS (1/3), 132-1
CN804 6P W (CHECK PIN)
HI-FI REC CURRENT 1 ①
N.C 2
VIDEO REC CURRENT 3 ②
VIDEO PB RF 4 ③
SW PULSE 5 ④
GND 6
CN805 6P Y
L:HI-FI REC IN 1 AU (1/2), 308-6
PB 5V IN 2 AU (1/2), 308-5
HI-FI PB RF CH-A OUT 3 AU (1/2), 308-4
GND 4 AU (1/2), 308-3
HI-FI REC RF IN 5 AU (1/2), 308-2
HI-FI PB RF CH-B OUT 6 AU (1/2), 308-1
1
2
3
4
5
H
I
J
K
L
M
N
O
P

RP-77

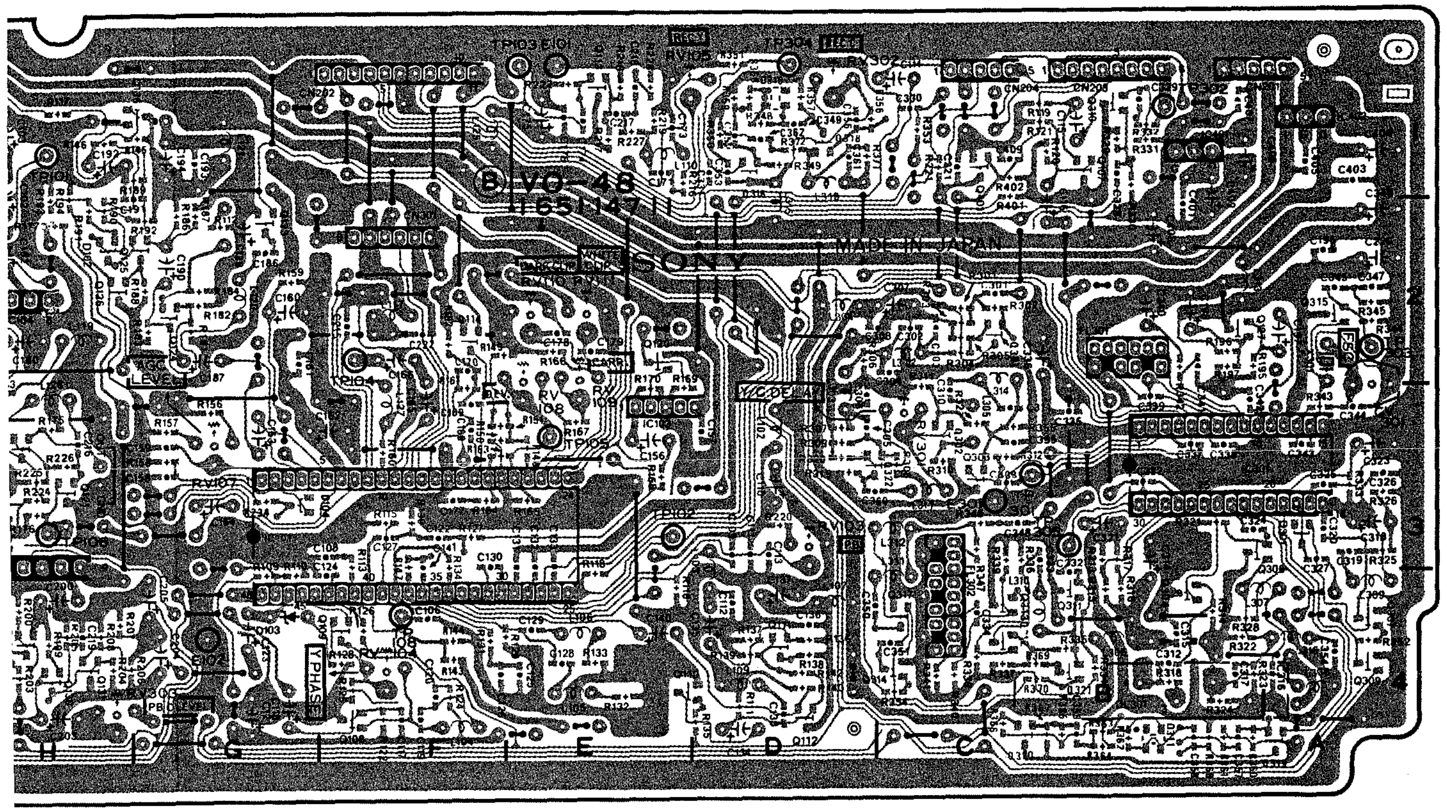
1-651-146-11 (1)
SVO-965P
SVO-915P

VO-48/48A ; Y/C VIDEO PROCESS


VO-48 A
1-651-147-11
MADE IN JAPAN
SONY
A 8275 323 A
LOT NO.
DIP
WHITE CLIP
CARR.
DEV.
Y/C DELAY
PB
Y PHASE
PBC LEVEL
AGC LEVEL
MANUAL LEVEL
FSC
REC
RV111 RV110
RV109 RV108
RV301
RV103
RV104
RV107
RV303
TP101
TP102
TP104
TP105
TP106
TP107
TP108
TP301
TP302
TP303
TP305
IC101
IC103
IC104
IC105
IC301
IC402
CV301
E101
E102
E103
E301
DL301
FL301
FL302
CN201R
CN202W
CN211W
CN212Y
1
2
3
4
A
B
C
D
E
F
G
H
J


MANUAL LEVEL
RV101
AGC LEVEL
Y PHASE

VO-48/48A — A SIDE —
1-651-147-11 (1)
SVO-965P
SVO-915P



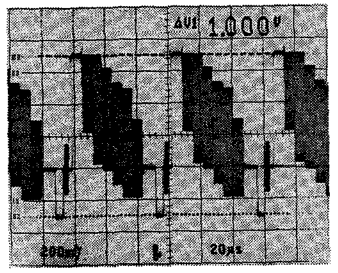
VO-48/48A — B SIDE —
1-651-147-11 (1)
SVO-965P
SVO-915P

VO-48/48A (1-651-147-11)

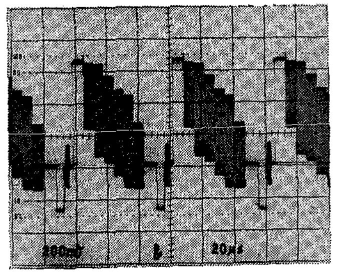
CN201	A-1
CN202	F-1
CN203	B-1
CN204	C-1
CN211	J-2
CN212	J-2
CN301	J-2
CV301	A-3
DL301	B-4
D102	H-2 *
D103	G-4 *
D104	F-3 *
D301	A-3 *
D310	D-1 *
E101	E-1
E102	G-4
E103	J-2
E301	C-3
FL101	H-3
FL301	B-3
FL302	C-4
IC101	F-3
IC103	E-3
IC104	H-2
IC105	H-3
IC301	A-3
IC401	B-1
IC402	A-1
Q101	J-1 *
Q102	H-1 *
Q103	H-2 *
Q107	B-1 *
Q108	F-4 *
Q109	F-4 *
Q110	E-4 *
Q111	D-4 *
Q112	D-4 *
Q113	E-1 *
Q114	F-2 *
Q120	E-2 *
Q121	H-3 *
Q122	J-3 *
Q123	G-2 *
Q124	G-2 *
Q125	H-2 *
Q126	H-2 *
Q127	A-2 *
Q128	H-4 *
Q129	H-4 *
Q130	H-4 *
Q131	H-4 *
Q132	J-4 *
Q133	J-4
Q134	J-3
Q135	H-3 *
Q136	H-1 *
Q301	B-2 *
Q302	C-3 *
Q303	D-2 *
Q304	B-4 *
Q306	A-3 *
Q307	A-4 *
Q309	A-4 *
Q310	B-1 *
Q311	B-4 *
Q312	B-4 *
Q313	B-4 *
Q314	C-4 *
Q315	A-2 *
Q316	D-1 *
Q317	C-4 *
Q318	D-1 *
Q319	A-4 *
Q320	B-4 *
Q321	B-4 *
Q322	C-3 *
Q401	C-1 *
RV101	J-1
RV103	D-3
RV104	F-4
RV105	D-1
RV107	G-3
RV108	E-3
RV109	E-3
RV110	E-2
RV111	E-2
RV301	C-2
RV302	D-1
RV303	H-4
TP103	E-1
TP104	F-2
TP105	E-3
TP106	H-3
TP107	J-2
TP303	A-2
TP304	D-1
X301	A-2

* mark ; B SIDE mount

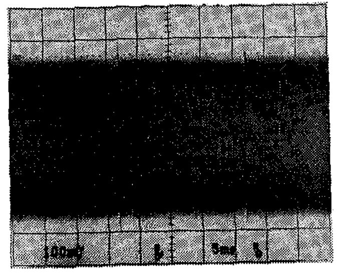
① CN211-1 EE mode



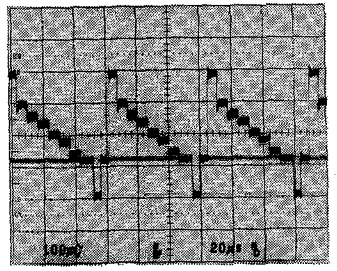
② Q103 Emitter EE mode



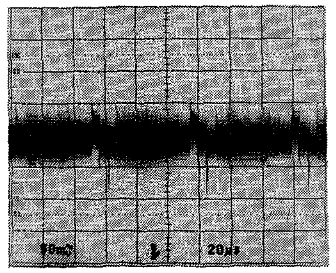
③ IC101-25 PB mode



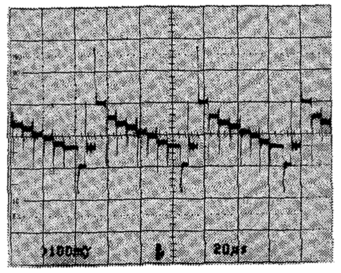
④ TP106 PB mode



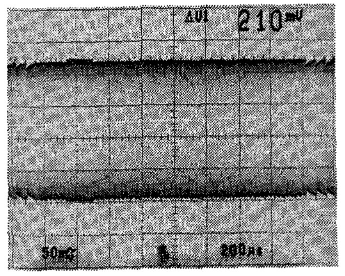
⑤ TP104 PB mode



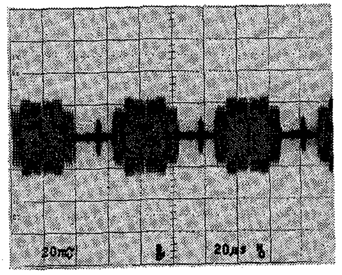
⑥ TP105 EE mode



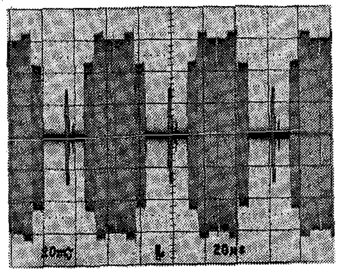
⑦ TP103 REC mode



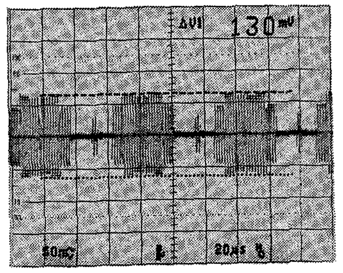
⑧ IC301-5 PB mode



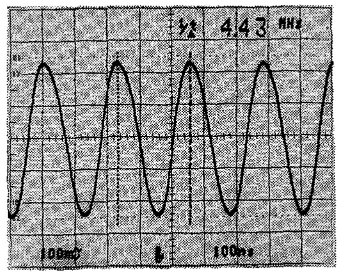
⑨ IC301-30 EE mode



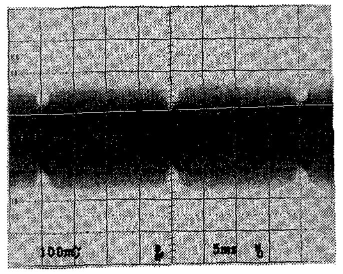
⑩ TP304 REC mode



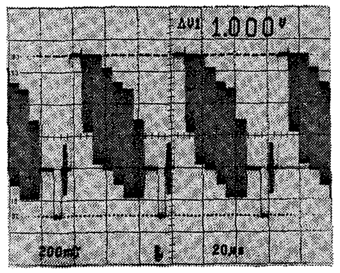
⑪ TP303 EE mode



⑫ CN203-8 PB mode



⑬ TP107 EE mode



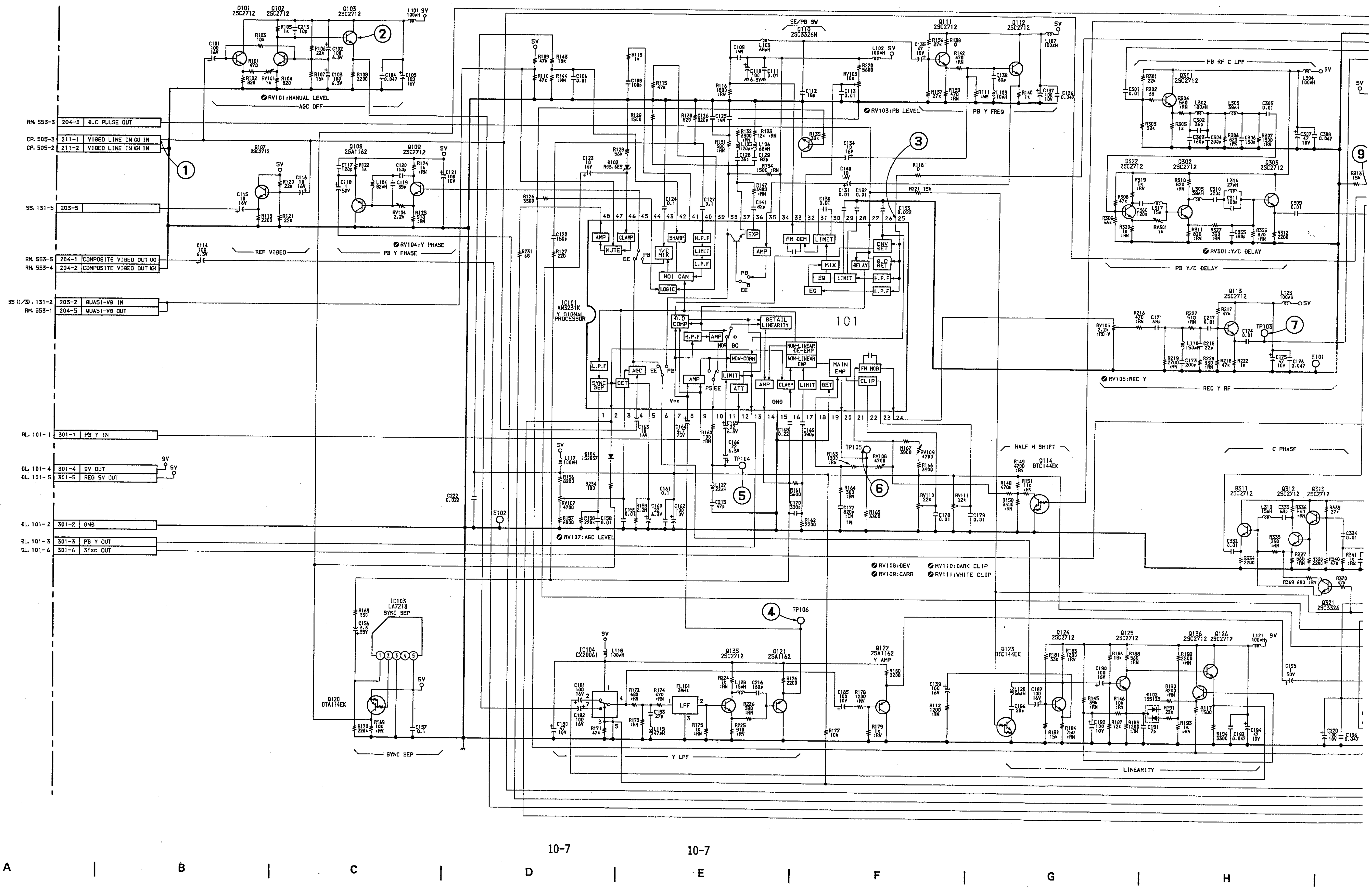
Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

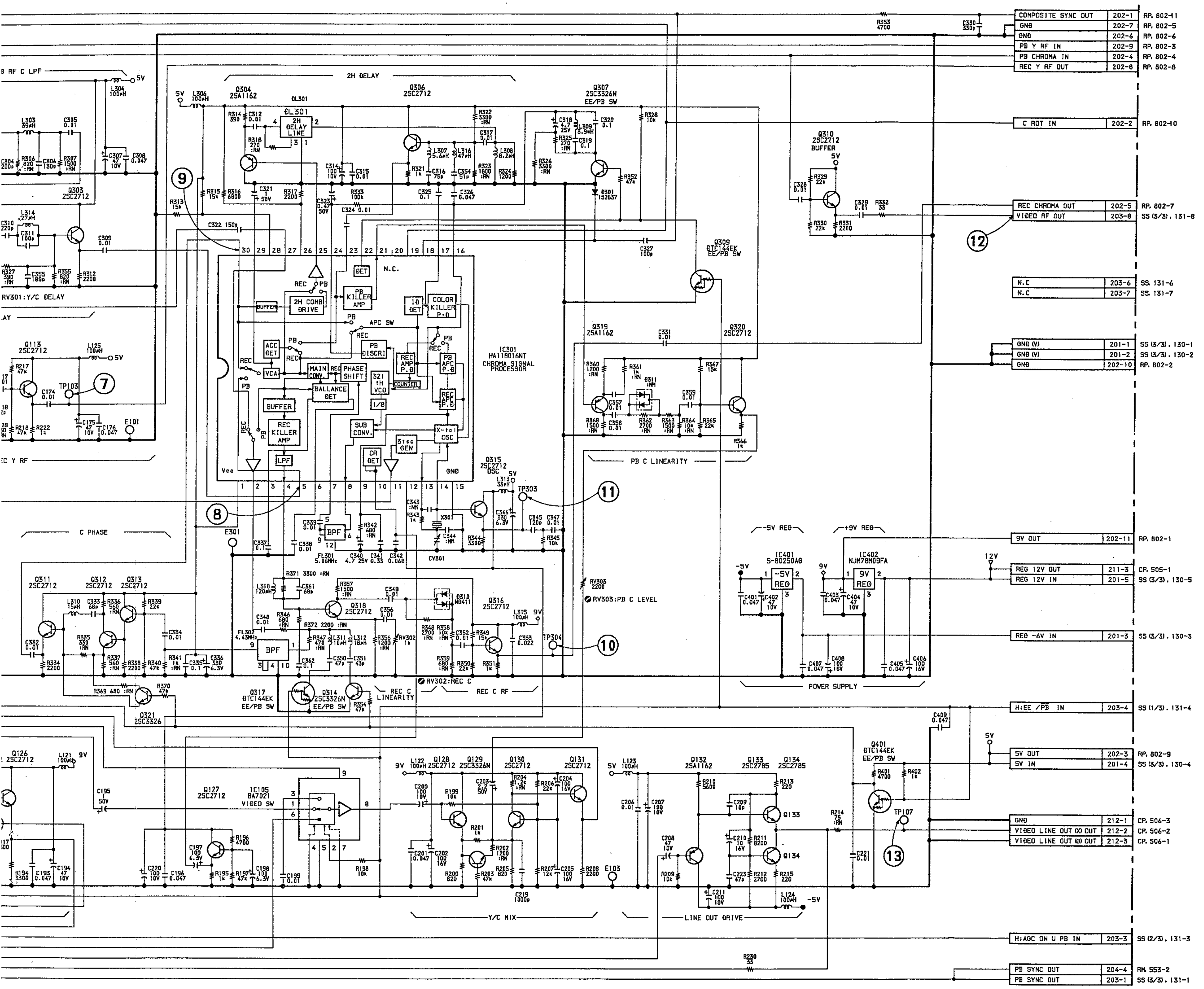
VO-48/48A (1-651-147-11)

CN201	A-1
CN202	F-1
CN203	B-1
CN204	C-1
CN211	J-2
CN212	J-2
CN301	J-2
IC101	F-3
IC301	A-3
Q103	H-2 *
TP103	E-1
TP104	F-2
TP105	E-3
TP106	H-3
TP107	J-2
TP303	A-2

* mark; B SIDE mount

VO-48; Y/C VIDEO PROCESS


RM. 553-3 204-3 θ.D PULSE OUT
CP. 505-3 211-1 VIDEO LINE IN (X) IN
CP. 505-2 211-2 VIDEO LINE IN (Θ) IN
SS. 131-5 203-5
RM. 553-5 204-1 COMPOSITE VIDEO OUT (X)
RM. 553-4 204-2 COMPOSITE VIDEO OUT (Θ)
SS(1/3). 131-2 203-2 QUASI-V8 IN
RM. 553-1 204-5 QUASI-V8 OUT
BL. 101-1 301-1 PB Y IN
BL. 101-4 301-4 9V OUT
BL. 101-5 301-5 REG 5V OUT
BL. 101-2 301-2 GND
BL. 101-3 301-3 PB Y OUT
BL. 101-6 301-6 3fsc OUT
Q101 2SC2712
Q102 2SC2712
Q103 2SC2712
RV101:MANUAL LEVEL
AGC OFF
Q107 2SC2712
REF VIDEO
Q108 2SA1162
Q109 2SC2712
RV104:Y PHASE
PB Y PHASE
EE/PB SW
Q110 2SC3326N
Q111 2SC2712
Q112 2SC2712
RV103:PB LEVEL
PB Y FREQ
IC101 AN3231K Y SIGNAL PROCESSOR
101
AMP
CLAMP
MUTE
SHARP
H.P.F
Y/C MIX
LIMIT
L.P.F
NOI CAN
LOGIC
EXP
FM DEM
MIX
DELAY
ENV DET
D.O DET
EQ
D.O COMP
DETAIL LINEARITY
NON-LINEAR DE-EMP
NON-LINEAR EMP
NON-CORR
MAIN EMP
FM MOD
CLIP
SYNC SEP
DET
AGC
ATT
Vcc
GND
NOR
PB
EE
TP104
TP105
TP106
TP103
RV107:AGC LEVEL
RV108:DEV
RV109:CARR
RV110:DARK CLIP
RV111:WHITE CLIP
HALF H SHIFT
Q114 DTC144EK
IC103 LA7213 SYNC SEP
Q120 DTA114EK
SYNC SEP
IC104 CX20061
FL101 5MHz
LPF
Q135 2SC2712
Q121 2SA1162
Y LPF
Q122 2SA1162 Y AMP
Q123 DTC144EK
Q124 2SC2712
Q125 2SC2712
Q136 2SC2712
Q126 2SC2712
D102 1SS123
LINEARITY
PB RF C LPF
Q301 2SC2712
Q322 2SC2712
Q302 2SC2712
Q303 2SC2712
RV301:Y/C DELAY
PB Y/C DELAY
Q113 2SC2712
RV105:REC Y
REC Y RF
C PHASE
Q311 2SC2712
Q312 2SC2712
Q313 2SC2712
Q321 2SC3326
①
②
③
④
⑤
⑥
⑦
⑨
A
B
C
D
E
F
G
H

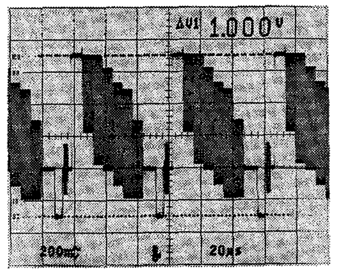

2H DELAY
DL301
2H DELAY LINE
Q304 2SA1162
Q306 2SC2712
Q307 2SC3326N EE/PB SW
Q310 2SC2712 BUFFER
Q309 DTC144EK EE/PB SW
Q303 2SC2712
Q113 2SC2712
RV301:Y/C DELAY
B RF C LPF
IC301 HA118016NT CHROMA SIGNAL PROCESSOR
BUFFER
2H COMB DRIVE
PB KILLER AMP
DET
N.C.
ID DET
COLOR KILLER P.D
APC SW
ACC DET
PB DISCRI
REC AMP P.D
PB APC P.D
VCA
MAIN CONV.
PHASE SHIFT
321 fH VCO
COUNTER
REC AFC P.D
BALLANCE DET
1/8
REC KILLER AMP
SUB CONV.
X-tal OSC
3fsc GEN
CR DET
LPF
Vcc
GND
REC
PB
Q319 2SA1162
Q320 2SC2712
Q311
PB C LINEARITY
Q315 2SC2712 OSC
TP303
TP304
X301
CV301
RV303 2200
RV303:PB C LEVEL
RV302:REC C
REC C RF
REC C LINEARITY
C PHASE
Q311 2SC2712
Q312 2SC2712
Q313 2SC2712
Q316 2SC2712
Q318 2SC2712
Q317 DTC144EK EE/PB SW
Q314 2SC3326N EE/PB SW
Q321 2SC3326
FL301 5.06MHz
FL302 4.43MHz
BPF
D310 MA411
E301
E101
TP103
-5V REG
IC401 S-80250AG
+9V REG
IC402 NJM78M09FA
POWER SUPPLY
Q126 2SC2712
Q127 2SC2712
IC105 BA7021 VIDEO SW
Q128 2SC2712
Q129 2SC3326N
Q130 2SC2712
Q131 2SC2712
Y/C MIX
Q132 2SA1162
Q133 2SC2785
Q134 2SC2785
LINE OUT DRIVE
Q401 DTC144EK EE/PB SW
TP107
E103
⑦
⑧
⑨
⑩
⑪
⑫
⑬
COMPOSITE SYNC OUT 202-1 RP. 802-11
GND 202-7 RP. 802-5
GND 202-6 RP. 802-6
PB Y RF IN 202-9 RP. 802-3
PB CHROMA IN 202-4 RP. 802-4
REC Y RF OUT 202-8 RP. 802-8
C ROT IN 202-2 RP. 802-10
REC CHROMA OUT 202-5 RP. 802-7
VIDEO RF OUT 203-8 SS (3/3). 131-8
N.C 203-6 SS. 131-6
N.C 203-7 SS. 131-7
GND (V) 201-1 SS (3/3). 130-1
GND (V) 201-2 SS (3/3). 130-2
GND 202-10 RP. 802-2
9V OUT 202-11 RP. 802-1
12V
REG 12V OUT 211-3 CP. 505-1
REG 12V IN 201-5 SS (3/3). 130-5
REG -6V IN 201-3 SS (3/3). 130-3
H:EE /PB IN 203-4 SS (1/3). 131-4
5V
5V OUT 202-3 RP. 802-9
5V IN 201-4 SS (3/3). 130-4
GND 212-1 CP. 506-3
VIDEO LINE OUT (X) OUT 212-2 CP. 506-2
VIDEO LINE OUT (G) OUT 212-3 CP. 506-1
H:AGC ON U PB IN 203-3 SS (2/3). 131-3
PB SYNC OUT 204-4 RM. 553-2
PB SYNC OUT 203-1 SS (3/3). 131-1
1
2
3
4
5

REF	FIN.REF		
	100	300	400
C	223	362	409
R	234	372	402
CV	—	301	—
RV	111	303	—
L	128	318	—
DL	—	301	—
FL	101	302	—
S	101	—	—
E	103	301	
TP	108	305	
X	—	301	—
D	104	311	—
Q	136	322	401
IC	105	301	402

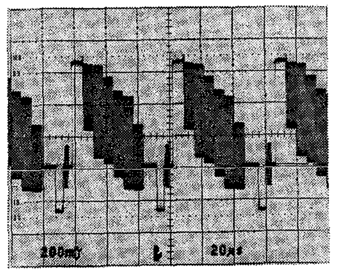
VO-48

1-651-147-11 (1)
SVO-965P

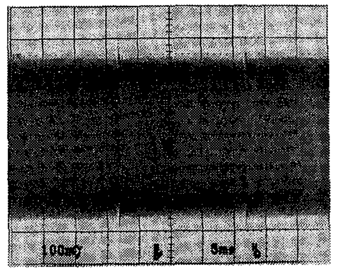
① CN211-1 EE mode



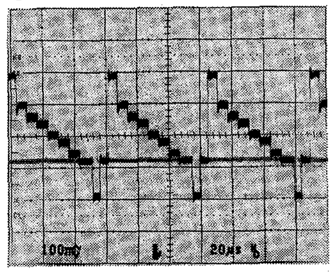
② Q103 Emitter EE mode



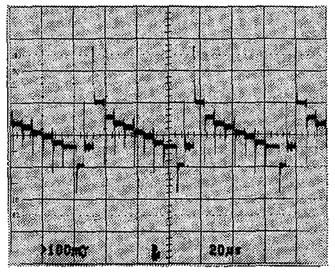
③ IC101-25 PB mode



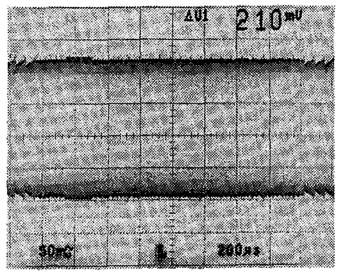
④ TP106 PB mode



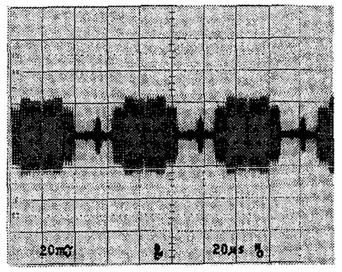
⑤ TP105 EE mode



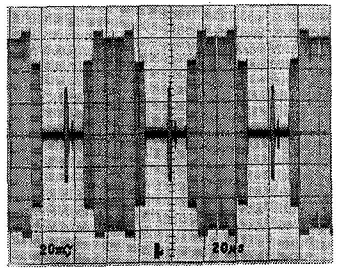
⑥ TP103 REC mode



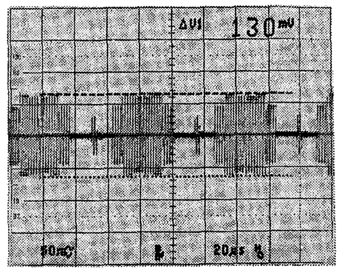
⑦ IC301-5 PB mode



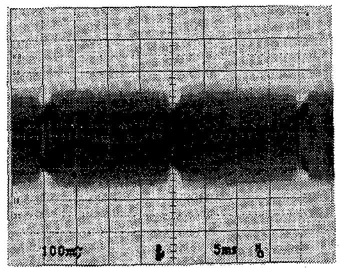
⑧ IC301-30 EE mode



⑨ TP304 REC mode



⑩ CN203-8 PB mode



Measurement Condition

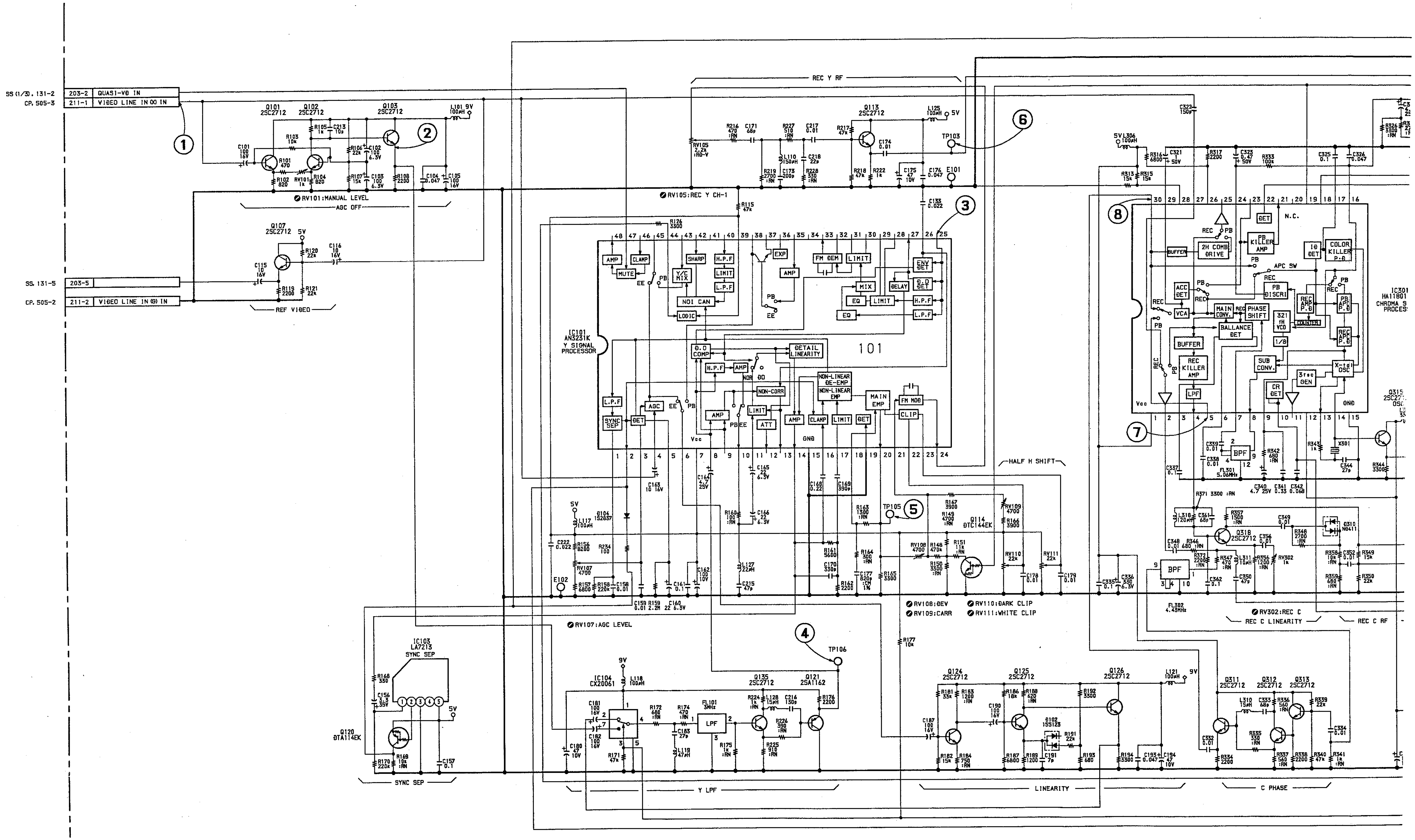
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

VO-48/48A (1-651-147-11)

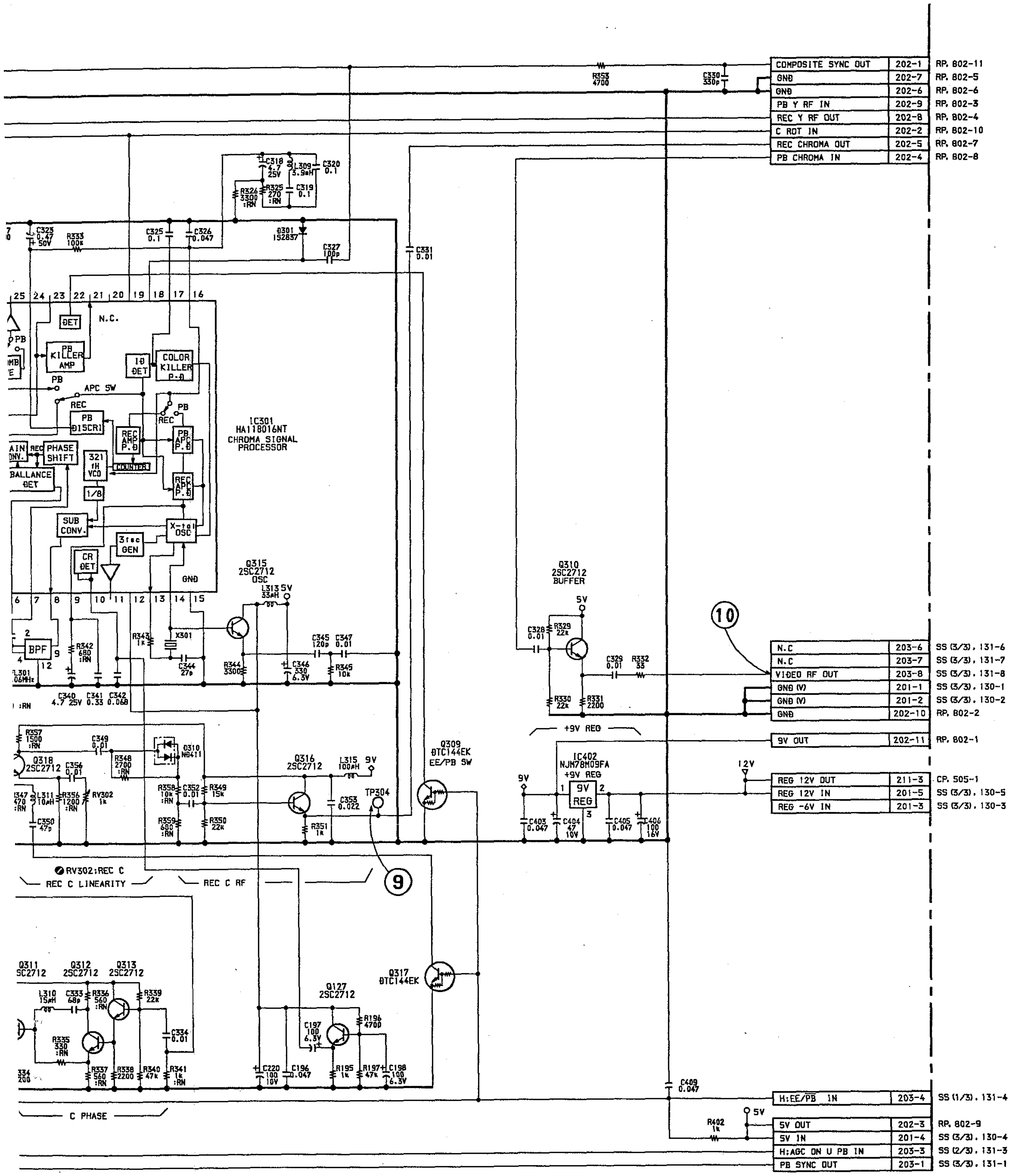
CN201	A-1
CN202	F-1
CN203	B-1
CN204	C-1
CN211	J-2
CN212	J-2
CN301	J-2
IC101	F-3
IC301	A-3
Q103	H-2 *
TP103	E-1
TP104	F-2
TP105	E-3
TP106	H-3
TP107	J-2
TP303	A-2

* mark; B SIDE mount

VO-48A ; Y/C VIDEO PROCESS


SS (1/3), 131-2
CP, 505-3
203-2 QUASI-V0 IN
211-1 VIDEO LINE IN (D) IN
SS, 131-5
203-5
CP, 505-2
211-2 VIDEO LINE IN (S) IN
Q101 2SC2712
Q102 2SC2712
Q103 2SC2712
L101 9V 100μH
RV101:MANUAL LEVEL
AGC OFF
Q107 2SC2712
REF VIDEO
REC Y RF
Q113 2SC2712
L125 100μH 5V
TP103
E101
RV105:REC Y CH-1
IC101 AN3231K Y SIGNAL PROCESSOR
AMP
CLAMP
MUTE
Y/C MIX
SHARP
H.P.F
LIMIT
L.P.F
NOI CAN
LOGIC
EXP
FM DEM
LIMIT
ENV DET
D.O DET
MIX
DELAY
EQ
D.O COMP
DETAIL LINEARITY
101
NON-LINEAR DE-EMP
NON-LINEAR EMP
NON-CORR
MAIN EMP
FM MOD
CLIP
SYNC SEP
DET
AGC
ATT
Vcc
GND
HALF H SHIFT
TP105
Q114 DTC144EK
RV108:DEV
RV109:CARR
RV110:DARK CLIP
RV111:WHITE CLIP
RV107:AGC LEVEL
E102
IC103 LA7213 SYNC SEP
Q120 DTA114EK
SYNC SEP
TP106
IC104 CX20061
LPF
FL101 3MHz
Q135 2SC2712
Q121 2SA1162
Y LPF
Q124 2SC2712
Q125 2SC2712
Q126 2SC2712
L121 100μH 9V
D102 1SS123
LINEARITY
IC301 HA11801 CHROMA S PROCESS
BUFFER
2H COMB DRIVE
PB KILLER AMP
DET
ID DET
COLOR KILLER P-D
APC SW
ACC DET
VCA
MAIN CONV.
PHASE SHIFT
PB DISCRI
REC APC P.D
PB APC P.D
BALLANCE DET
321 fH VCO
COUNTER
1/8
REC KILLER AMP
SUB CONV.
X-tal OSC
CR DET
3fsc GEN
REC
PB
Vcc
GND
X301
BPF
FL301 5.06MHz
FL302 4.43MHz
Q318 2SC2712
Q310 N0411
RV302:REC C
REC C LINEARITY
REC C RF
Q311 2SC2712
Q312 2SC2712
Q313 2SC2712
C PHASE
①
②
③
④
⑤
⑥
⑦
⑧

A | B | C | D | E | F | G | H |

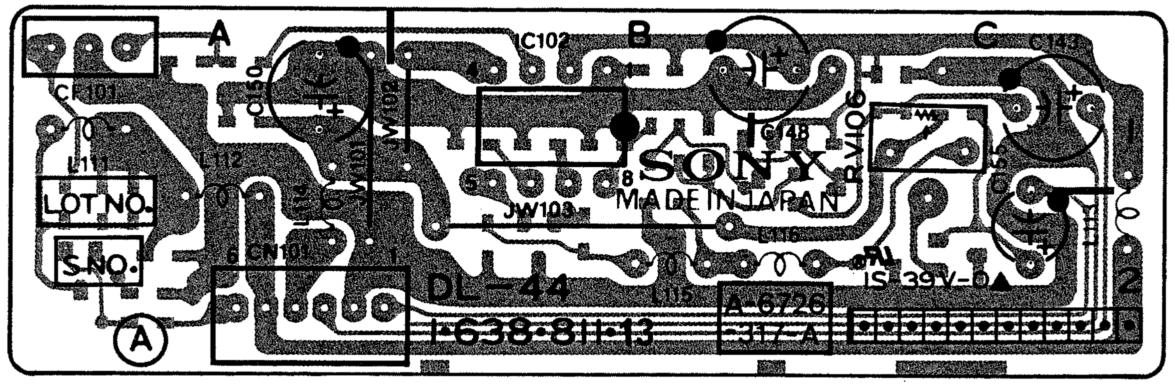

COMPOSITE SYNC OUT 202-1 RP. 802-11
GNÐ 202-7 RP. 802-5
GNÐ 202-6 RP. 802-6
PB Y RF IN 202-9 RP. 802-3
REC Y RF OUT 202-8 RP. 802-4
C ROT IN 202-2 RP. 802-10
REC CHROMA OUT 202-5 RP. 802-7
PB CHROMA IN 202-4 RP. 802-8
N.C 203-6 SS (3/3), 131-6
N.C 203-7 SS (3/3), 131-7
VIÐEO RF OUT 203-8 SS (3/3), 131-8
GNÐ (V) 201-1 SS (3/3), 130-1
GNÐ (V) 201-2 SS (3/3), 130-2
GNÐ 202-10 RP. 802-2
9V OUT 202-11 RP. 802-1
REG 12V OUT 211-3 CP. 505-1
REG 12V IN 201-5 SS (3/3), 130-5
REG -6V IN 201-3 SS (3/3), 130-3
H:EE/PB IN 203-4 SS (1/3), 131-4
5V OUT 202-3 RP. 802-9
5V IN 201-4 SS (3/3), 130-4
H;AGC ON U PB IN 203-3 SS (2/3), 131-3
PB SYNC OUT 203-1 SS (3/3), 131-1
IC301 HA118016NT CHROMA SIGNAL PROCESSOR
PB KILLER AMP
COLOR KILLER P.D
PB DISCRI
PHASE SHIFT
REC AMP P.D
PB APC P.D
REC APC P.D
321 fH VCO
1/8
COUNTER
SUB CONV.
X-tal OSC
3fsc GEN
CR DET
BALLANCE DET
APC SW
REC
PB
N.C.
GND
BPF
Q315 2SC2712 OSC
Q310 2SC2712 BUFFER
Q316 2SC2712
Q318 2SC2712
Q309 DTC144EK EE/PB SW
Q317 DTC144EK
Q127 2SC2712
Q311 2SC2712
Q312 2SC2712
Q313 2SC2712
D301 1S2837
D310 MA4711
X301
IC402 NJM78M09FA +9V REG
9V REG
+9V REG
TP304
RV302:REC C
REC C LINEARITY
REC C RF
C PHASE
R353 4700
C330 330p
R402 1k
C409 0.047
12V
9V
5V
⑨
⑩

REF	FIN.REF		
	100	300	400
C	223	355	409
R	234	355	402
CV	—	301	—
RV	111	303	—
L	128	316	—
ÐL	—	301	—
FL	101	302	—
S	101	—	—
E	103	301	
TP	107	305	
X	—	301	—
Ð	105	301	—
Q	138	317	401
IC	105	301	402

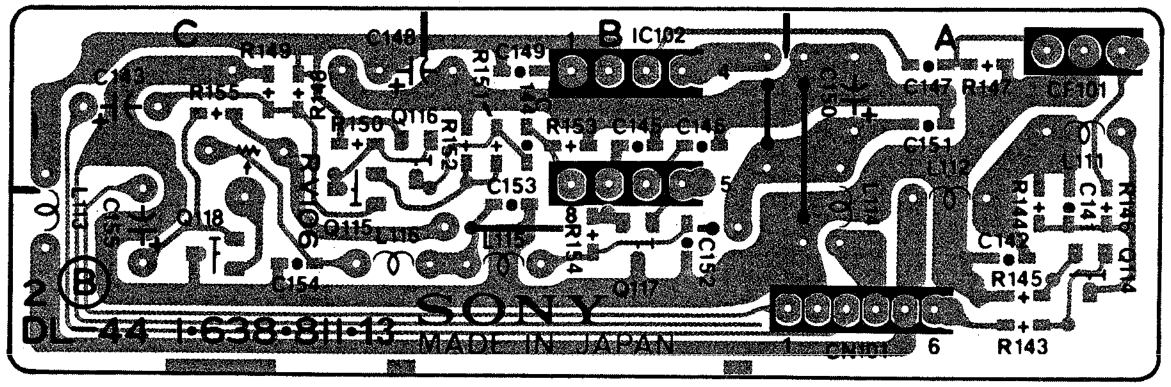
VO-48A

1-651-147-11 (1)
SVO-915P

DL-44 ; CCD 1H DELAY


A
B
C
CF101
L111
L112
LOT NO.
S NO.
CN101
6
1
C150
C148
IC102
4
5
8
JW103
SONY
MADE IN JAPAN
RV106
C143
L115
L116
DL-44
1-638-811-13
A-6726
IS-39V-D
2
Ⓐ

DL-44 — A SIDE —
1-638-811-13 (1)
SVO-965P


C
B
A
R149
C148
C149
IC102
C143
R155
R151
Q116
R150
R152
R153
C147
C146
C150
C147
R147
CF101
C151
L112
L111
C153
L113
C155
Q118
Q115
L116
L115
R154
C152
R144
C141
R146
Q114
C142
R145
C154
Q117
SONY
MADE IN JAPAN
CN101
1
5
6
8
R143
2
Ⓑ
DL-44
1-638-811-13

DL-44 — B SIDE —
1-638-811-13 (1)
SVO-965P

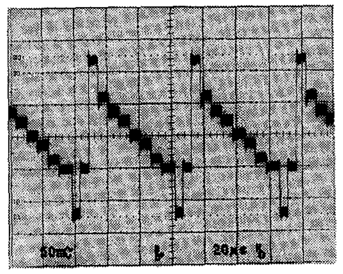
DL-44 (1-638-811-13)

CF101	A-1
CN101	A-2
IC102	B-1
Q114	A-2 *
Q115	C-2 *
Q116	C-1 *
Q117	B-2 *
Q118	C-2 *
RV106	C-1

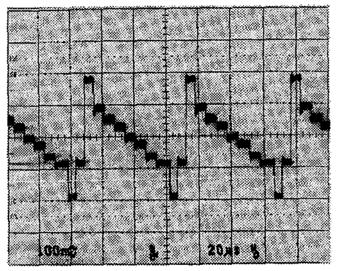
* mark ; B SIDE mount

DL-44; CCD 1H DELAY

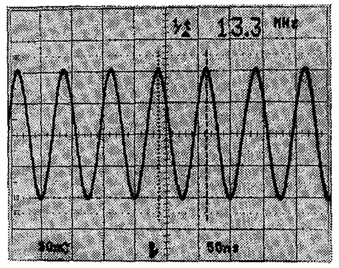
① CN101-3 PB mode



② CN101-1 PB mode



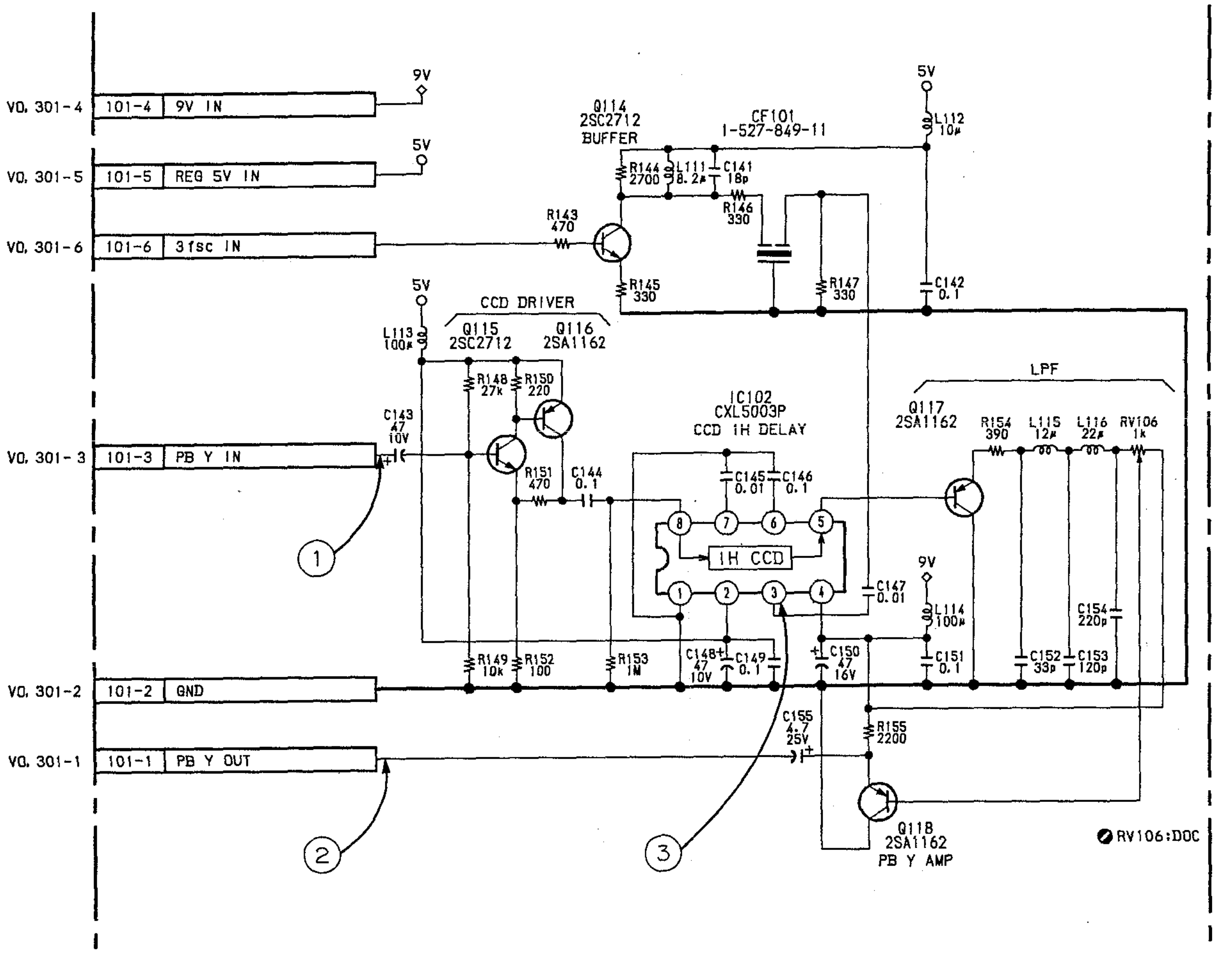
③ IC102-3 EE mode



Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

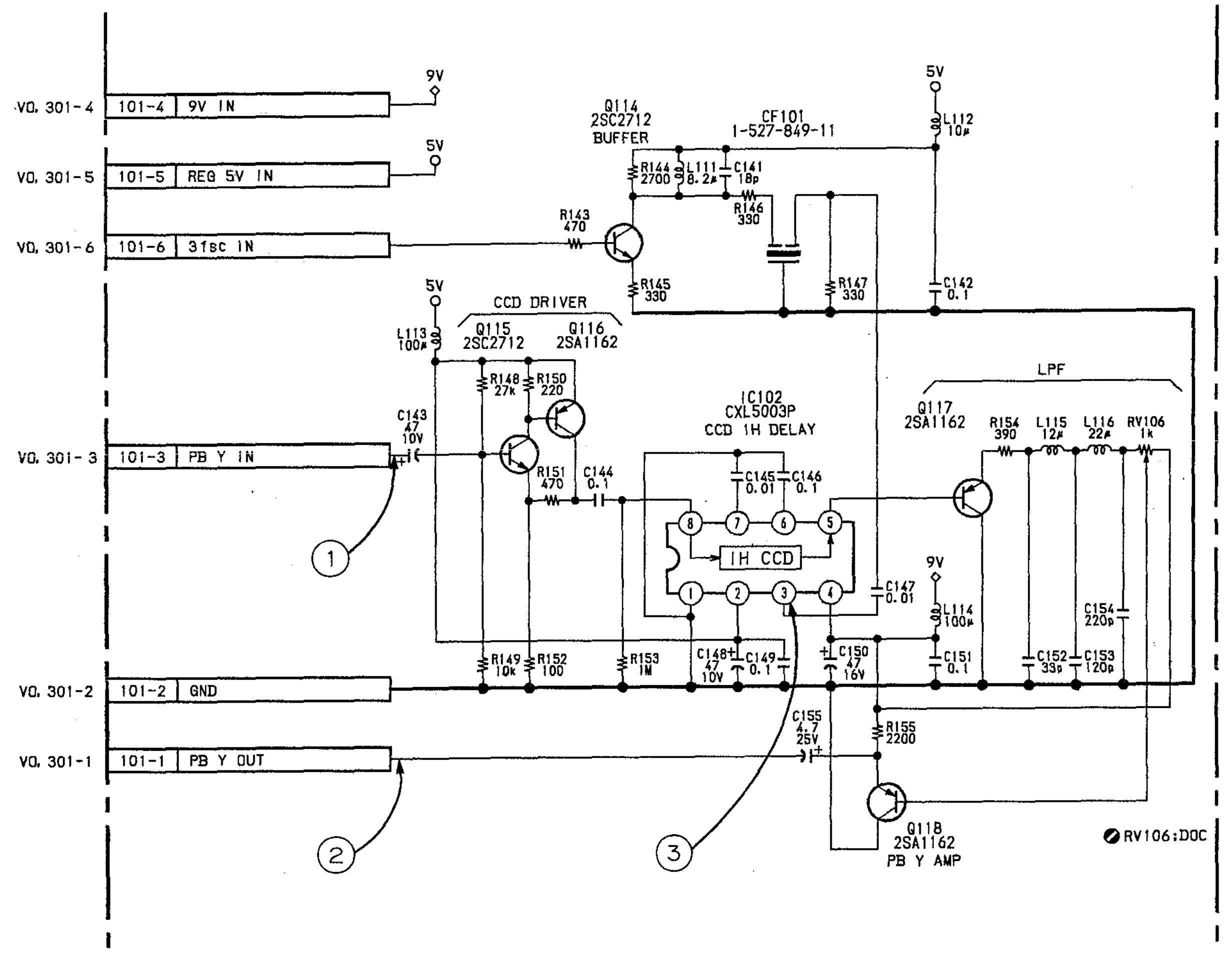
DL-44 (1-638-811-13)

CN101	A-2
IC102	B-1


VO, 301-4
101-4
9V IN
9V
VO, 301-5
101-5
REG 5V IN
5V
VO, 301-6
101-6
3fsc IN
VO, 301-3
101-3
PB Y IN
VO, 301-2
101-2
GND
VO, 301-1
101-1
PB Y OUT
Q114
2SC2712
BUFFER
R143 470
R144 2700
L111 8.2μ
C141 18p
R146 330
R145 330
CF101
1-527-849-11
R147 330
5V
L112 10μ
C142 0.1
CCD DRIVER
Q115 2SC2712
Q116 2SA1162
5V
L113 100μ
R148 27k
R150 220
C143 47 10V
R151 470
C144 0.1
R149 10k
R152 100
R153 1M
IC102
CXL5003P
CCD 1H DELAY
C145 0.01
C146 0.1
1H CCD
C147 0.01
C148 47 10V
C149 0.1
C150 47 16V
9V
L114 100μ
C151 0.1
C155 4.7 25V
R155 2200
Q118
2SA1162
PB Y AMP
LPF
Q117
2SA1162
R154 390
L115 12μ
L116 22μ
RV106 1k
C152 33p
C153 120p
C154 220p
RV106:DOC
①
②
③

DL-44

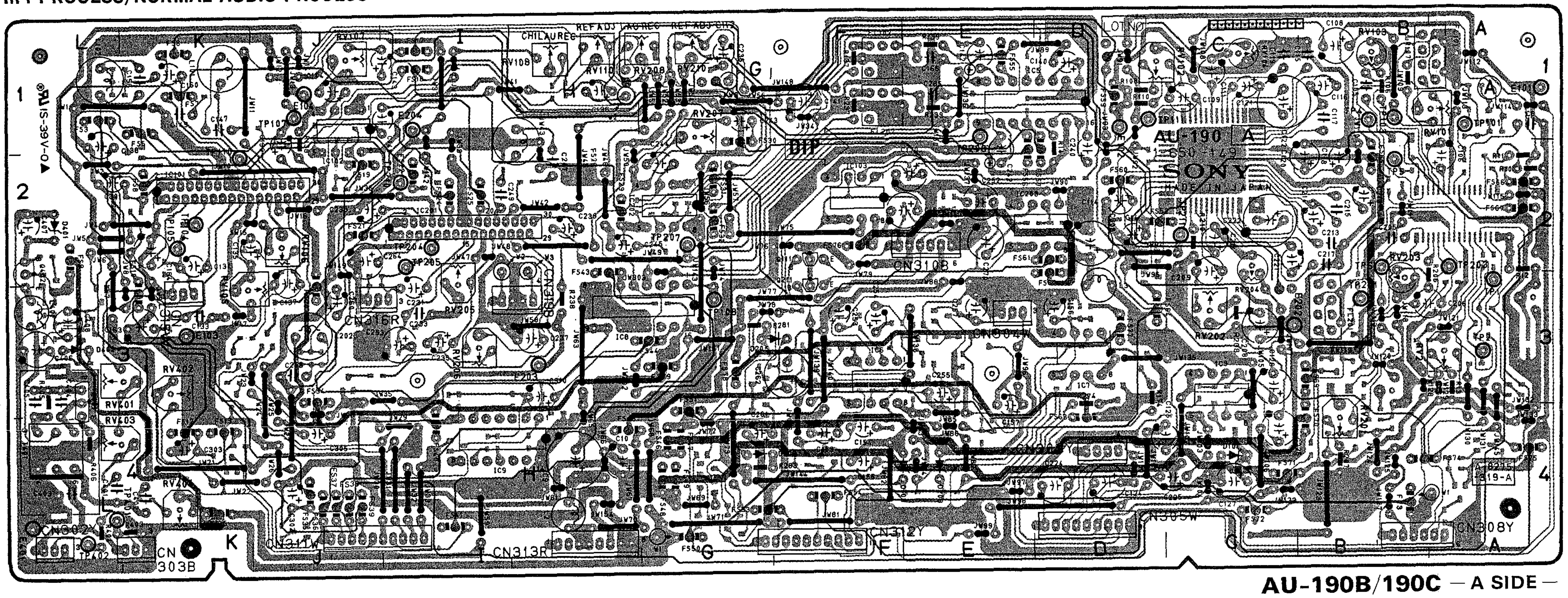
1-638-811-13 (1)
SVO-965P


VO. 301-4
101-4
9V IN
9V
VO. 301-5
101-5
REG 5V IN
5V
VO. 301-6
101-6
3fsc IN
VO. 301-3
101-3
PB Y IN
VO. 301-2
101-2
GND
VO. 301-1
101-1
PB Y OUT
①
②
③
Q114
2SC2712
BUFFER
R143
470
R144
2700
L111
8.2µ
C141
18p
R146
330
R145
330
CF101
1-527-849-11
R147
330
5V
L112
10µ
C142
0.1
5V
L113
100µ
CCD DRIVER
Q115
2SC2712
Q116
2SA1162
R148
27k
R150
220
C143
47
10V
R151
470
C144
0.1
R149
10k
R152
100
R153
1M
IC102
CXL5003P
CCD 1H DELAY
C145
0.01
C146
0.1
1H CCD
8
7
6
5
1
2
3
4
C147
0.01
C148
47
10V
C149
0.1
C150
47
16V
9V
L114
100µ
C151
0.1
LPF
Q117
2SA1162
R154
390
L115
12µ
L116
22µ
RV106
1k
C152
33p
C153
120p
C154
220p
C155
4.7
25V
R155
2200
Q118
2SA1162
PB Y AMP
RV106:DOC

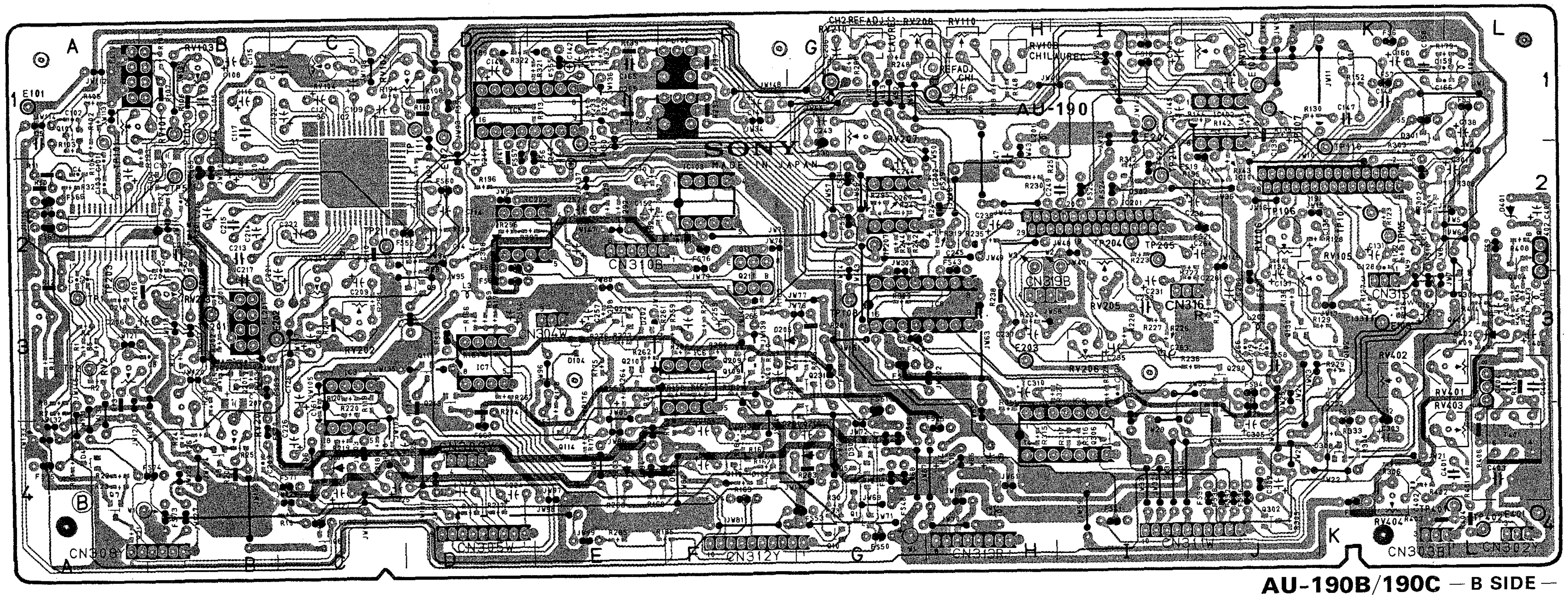
DL-44

1-638-811-13 (1)
SVO-965P

AU-190B/190C ; HiFi PROCESS/NORMAL AUDIO PROCESS


AU-190
SONY
MADE IN JAPAN
DIP
CN310B
CN304Y
CN316R
CN313R
CN319B
CN312Y
CN305W
CN308Y
CN303B
CN302Y
CN311W
CH1LAUREC
REFADJ
LOT NO.
A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4

AU-190B/190C — A SIDE —
1-650-149-12 (1)
SVO-965P
SVO-915P


AU-190
SONY
MADE IN JAPAN
CH2 REFADJ
CH1LAUREC
CN310B
CN304W
CN319B
CN316R
CN315
CN308Y
CN305W
CN312Y
CN313R
CN311W
CN303B
CN302Y
A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4

AU-190B/190C — B SIDE —
1-650-149-12 (1)
SVO-965P
SVO-915P

AU-190B/1

CN302
CN303
CN304
CN305
CN308
CN309
CN310
CN311
CN312
CN313
CN315
CN316
CN319

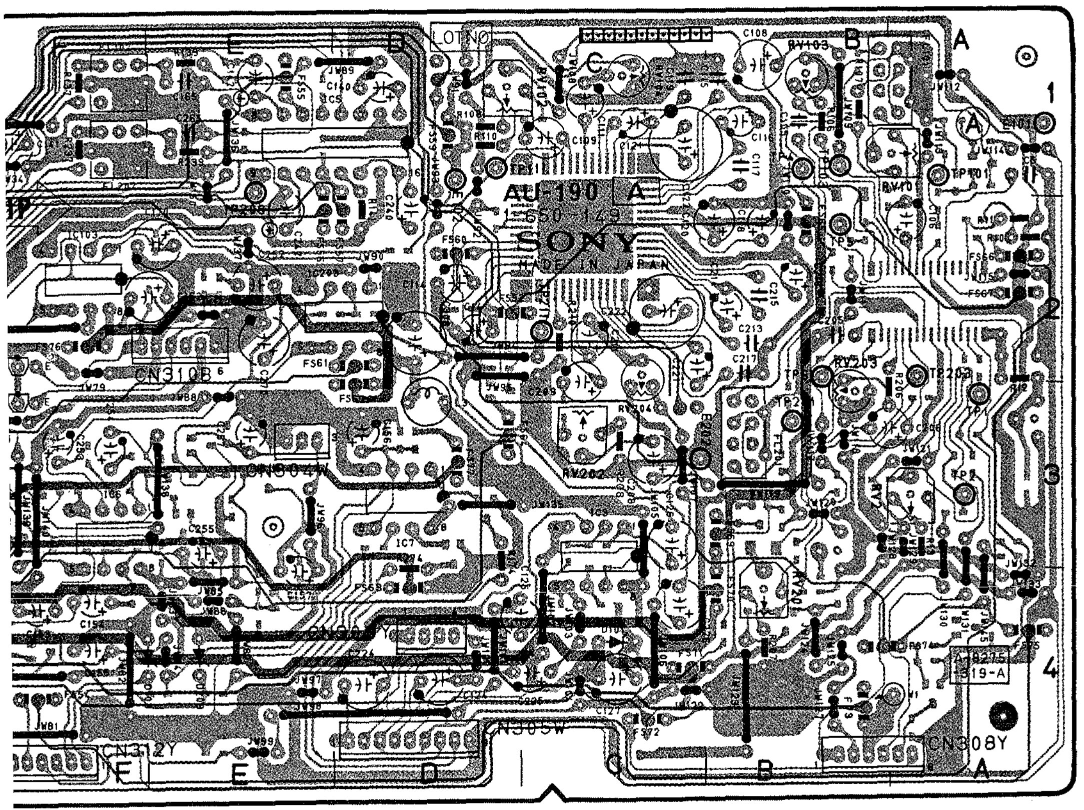
D4
D5
D101
D102
D103
D104
D202
D203
D205
D206
D301
D302
D307
D308
D401
D402

E101
E102
E103
E104
E202
E203
E204
E401

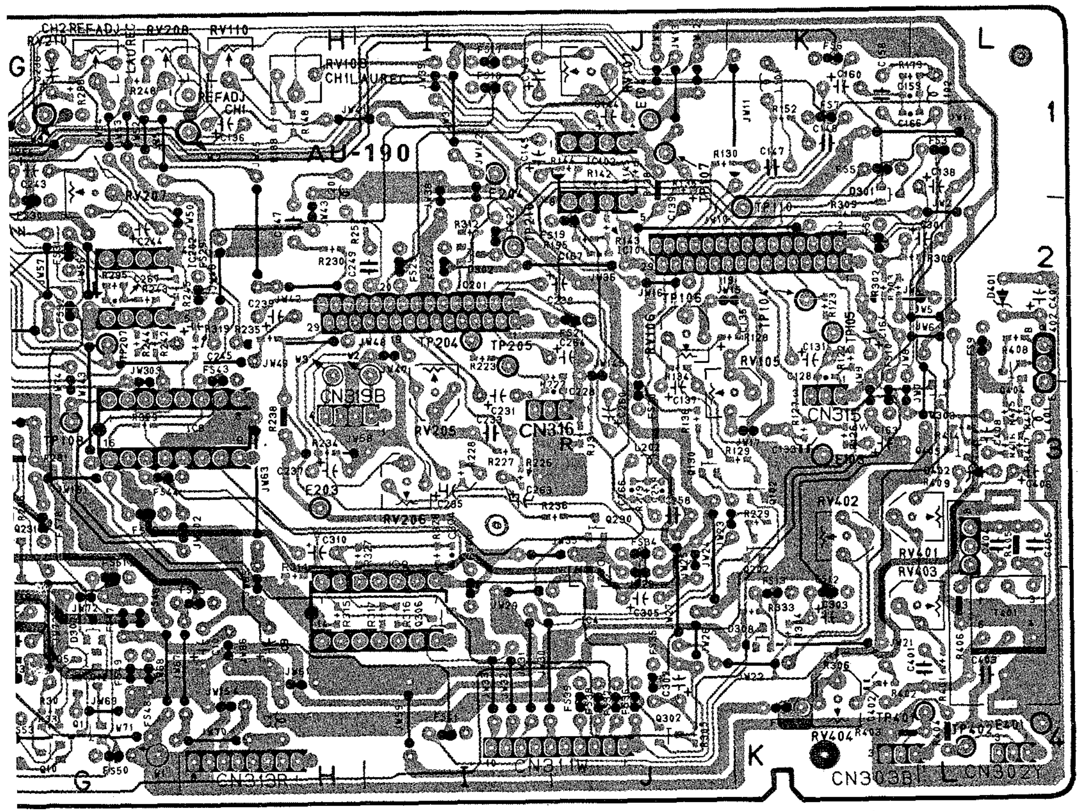
FL101
FL102
FL201
FL202

IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC101
IC102
IC103
IC201
IC202
IC203

Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q101


LOT NO.
AU-190 A
1-650-149
SONY
MADE IN JAPAN
CN310B
CN304W
CN312
CN305W
CN308Y
A
B
C
D
E
F
1
2
3
4

AU-190B/190C — A SIDE —
1-650-149-12 (1)
SVO-965P
SVO-915P


CH2 REF ADJ
RV208
RV110
RV108
CH1 LAUREC
AU-190
CN319B
CN316
CN315
RV401
RV402
RV404
CN313W
CN311W
CN303B
CN302Y
G
H
I
J
K
L
1
2
3
4

AU-190B/190C — B SIDE —
1-650-149-12 (1)
SVO-965P
SVO-915P

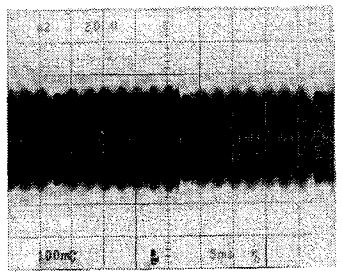
AU-190B/190C (1-650-149-12)

CN302	L-4	Q102	K-3 *	TP208	E-1
CN303	K-4	Q109	F-3 *	TP210	I-2
CN304	E-3	Q110	F-4 *	TP211	C-2
CN305	D-4	Q111	F-2	TP401	L-4
CN308	B-4	Q113	D-3 *	TP402	L-4
CN309	D-4	Q114	E-4 *		
CN310	E-2	Q130	J-3 *		
CN311	J-4	Q201	B-3 *		
CN312	F-4	Q202	K-3 *		
CN313	H-4	Q209	F-3 *		
CN315	K-3	Q210	E-3 *		
CN316	J-3	Q211	F-3		
CN319	H-3	Q213	D-3 *		
		Q214	E-3 *		
D4	A-4 *	Q216	G-4 *		
D5	G-4 *	Q230	J-3 *		
D101	C-4	Q231	G-3 *		
D102	F-4 *	Q302	J-4 *		
D103	F-4	Q303	L-3 *		
D104	E-3 *	Q306	I-4 *		
D202	E-3 *	Q401	L-3		
D203	F-4	Q402	L-2		
D205	F-3	Q404	L-2 *		
D206	G-4	Q405	L-3 *		
D301	K-1 *				
D302	I-2 *	RV2	A-3		
D307	G-4 *	RV101	A-1		
D308	K-4 *	RV102	D-1		
D401	L-2	RV103	B-1		
D402	L-3	RV104	C-1		
		RV105	K-3		
E101	A-1	RV106	J-2		
E102	D-1	RV107	J-1		
E103	K-3	RV108	H-1		
E104	J-1	RV110	H-1		
E202	C-3	RV201	B-4		
E203	H-3	RV202	C-3		
E204	I-1	RV203	B-3		
E401	L-4	RV204	C-2		
		RV205	I-3		
FL101	A-1	RV206	I-3		
FL102	F-1	RV207	G-1		
FL201	B-3	RV208	G-1		
FL202	F-1	RV210	G-1		
		RV401	L-3		
IC1	A-1 *	RV402	K-3		
IC2	C-2 *	RV403	L-4		
IC3	C-3	RV404	K-4		
IC4	J-4 *				
IC5	E-1	T401	L-4		
IC6	F-3				
IC7	D-3	TP1	A-3		
IC8	H-3	TP2	A-3		
IC9	I-4	TP4	B-1		
IC101	K-2	TP5	B-2		
IC102	J-1	TP6	B-2		
IC103	F-2	TP101	A-1		
IC201	I-2	TP103	B-1		
IC202	G-2	TP104	K-2		
IC203	D-2	TP105	K-2		
		TP107	J-1		
Q6	C-4 *	TP108	G-3		
Q7	A-4 *	TP110	K-2		
Q8	B-4 *	TP111	D-1		
Q9	D-3 *	TP201	B-3		
Q10	G-4 *	TP203	A-2		
Q11	G-4 *	TP204	I-2		
Q12	G-4 *	TP205	I-2		
Q101	A-1 *	TP207	G-2		

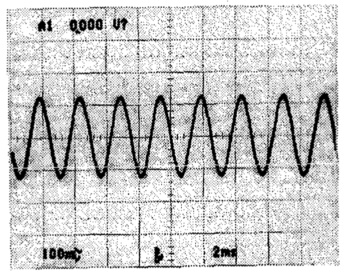
* mark ; B SIDE mount

AU-190B/190C (1/2); HiFi PROCESS/NORMAL AUDIO PROCESS

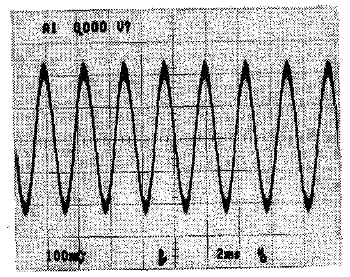
① TP101/201 PB mode



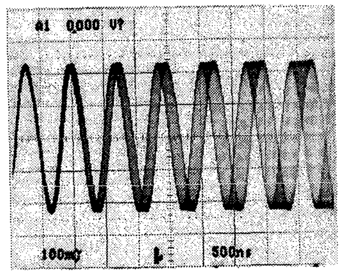
② TP103/203 EE mode



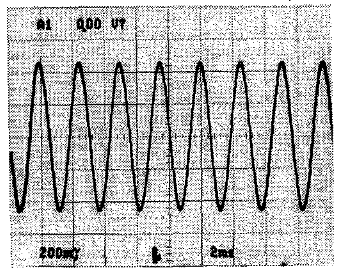
TP103/203 PB mode



③ TP5/6 EE mode



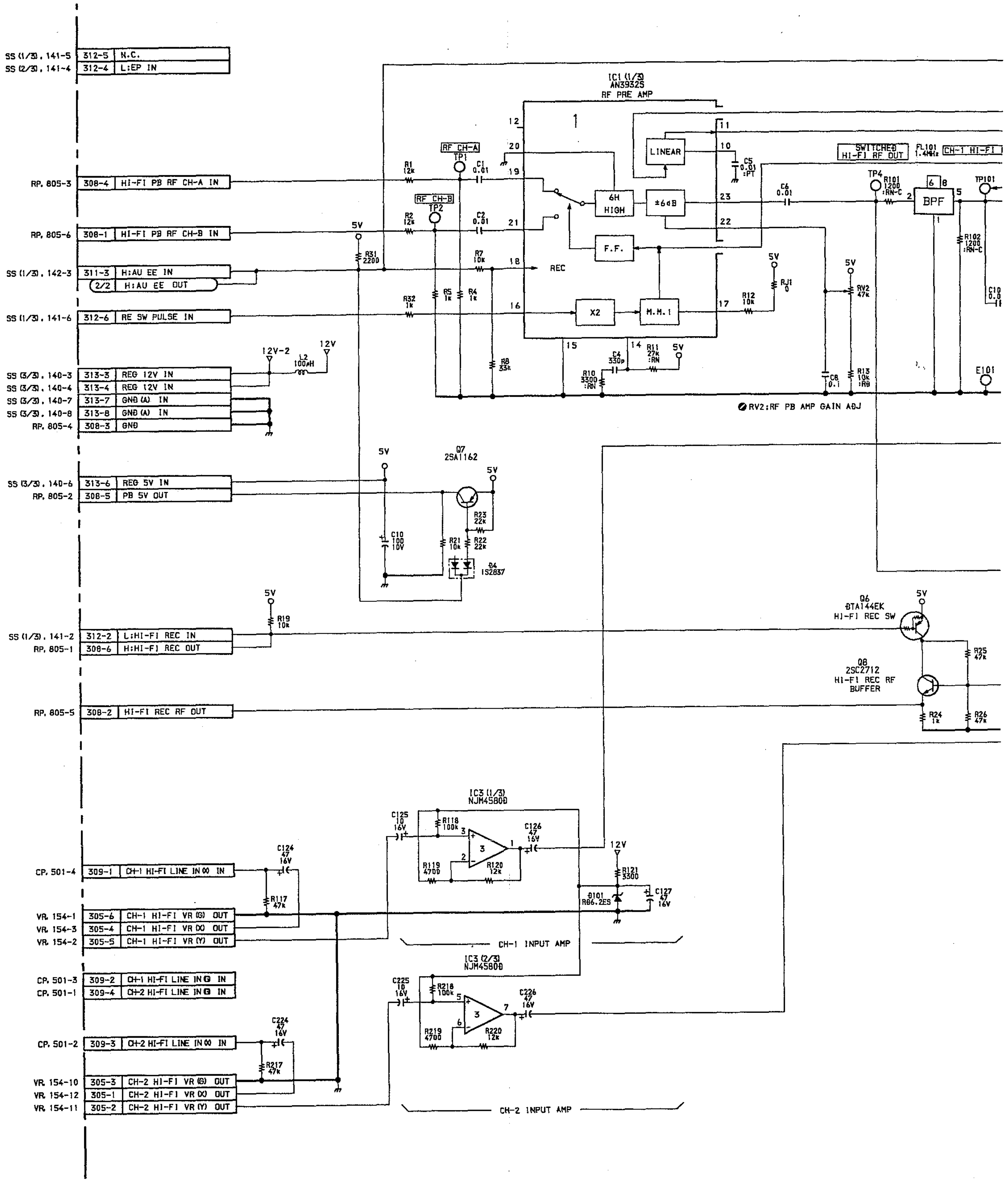
④ TP111/211 EE/PB mode



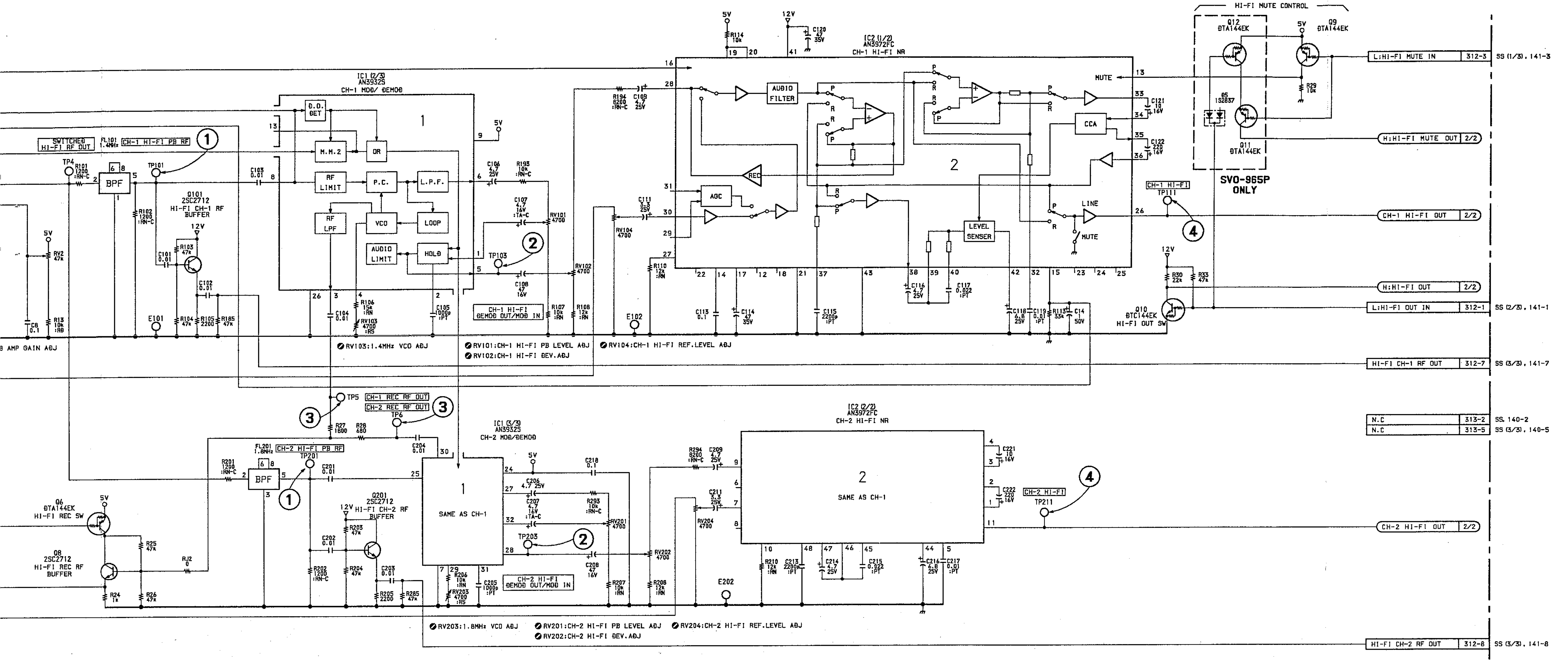
Measurement Condition
CH-1, AUDIO IN: 400 Hz, −10 dBu
PB mode: KRV-35PF

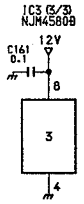
AU-190B/190C (1-650-149-12)

TP1	A-3
TP2	A-3
TP4	B-1
TP5	B-2
TP6	B-2
TP101	A-1
TP103	B-1
TP104	K-2
TP105	K-2
TP107	J-1
TP108	G-3
TP110	K-2
TP111	D-1
TP201	B-3
TP203	A-2
TP204	I-2
TP205	I-2
TP207	G-2
TP208	E-1
TP210	I-2
TP211	C-2
TP401	L-4
TP402	L-4


SS (1/3). 141-5 | 312-5 | N.C.
SS (2/3). 141-4 | 312-4 | L:EP IN
RP. 805-3 | 308-4 | HI-FI PB RF CH-A IN
RP. 805-6 | 308-1 | HI-FI PB RF CH-B IN
SS (1/3). 142-3 | 311-3 | H:AU EE IN
2/2 | H:AU EE OUT
SS (1/3). 141-6 | 312-6 | RE SW PULSE IN
SS (3/3). 140-3 | 313-3 | REG 12V IN
SS (3/3). 140-4 | 313-4 | REG 12V IN
SS (3/3). 140-7 | 313-7 | GND (A) IN
SS (3/3). 140-8 | 313-8 | GND (A) IN
RP. 805-4 | 308-3 | GND
SS (3/3). 140-6 | 313-6 | REG 5V IN
RP. 805-2 | 308-5 | PB 5V OUT
SS (1/3). 141-2 | 312-2 | L:HI-FI REC IN
RP. 805-1 | 308-6 | H:HI-FI REC OUT
RP. 805-5 | 308-2 | HI-FI REC RF OUT
CP. 501-4 | 309-1 | CH-1 HI-FI LINE IN (X) IN
VR. 154-1 | 305-6 | CH-1 HI-FI VR (G) OUT
VR. 154-3 | 305-4 | CH-1 HI-FI VR (X) OUT
VR. 154-2 | 305-5 | CH-1 HI-FI VR (Y) OUT
CP. 501-3 | 309-2 | CH-1 HI-FI LINE IN (G) IN
CP. 501-1 | 309-4 | CH-2 HI-FI LINE IN (G) IN
CP. 501-2 | 309-3 | CH-2 HI-FI LINE IN (X) IN
VR. 154-10 | 305-3 | CH-2 HI-FI VR (G) OUT
VR. 154-12 | 305-1 | CH-2 HI-FI VR (X) OUT
VR. 154-11 | 305-2 | CH-2 HI-FI VR (Y) OUT
IC1 (1/3) AN3932S RF PRE AMP
LINEAR
6H HIGH
±6dB
F.F.
X2
M.M.1
REC
RF CH-A TP1
RF CH-B TP2
R1 12k
R2 12k
C1 0.01
C2 0.01
R7 10k
R31 2200
R32 1k
R5 1k
R4 1k
R8 33k
R10 3300 :RN
C4 330p
R11 27k :RN
R12 10k
RJ1 0
C5 0.01 :PT
C6 0.01
C8 0.1
R13 10k :RN
RV2 47k
RV2:RF PB AMP GAIN ADJ
SWITCHED HI-FI RF OUT
FL101 1.4MHz
CH-1 HI-FI
TP4
R101 1200 :RN-C
BPF
R102 1200 :RN-C
TP101
E101
12V-2
L2 100µH
12V
5V
Q7 2SA1162
R23 22k
R21 10k
R22 22k
C10 100 10V
D4 1S2837
R19 10k
Q6 6TA144EK HI-FI REC SW
Q8 2SC2712 HI-FI REC RF BUFFER
R25 47k
R24 1k
R26 47k
IC3 (1/3) NJM4580D
C125 10 16V
R118 100k
R119 4700
R120 12k
C126 47 16V
C124 47 16V
R117 47k
R121 3300
D101 RD6.2ES
C127 47 16V
CH-1 INPUT AMP
IC3 (2/3) NJM4580D
C225 10 16V
R218 100k
R219 4700
R220 12k
C226 47 16V
C224 47 16V
R217 47k
CH-2 INPUT AMP

AU-190B/190C (1/2)


IC1 (2/3)
AN3932S
CH-1 MOD/ DEMOD
D.O. DET
M.M.2
OR
RF LIMIT
P.C.
L.P.F.
RF LPF
VCO
LOOP
AUDIO LIMIT
HOLD
SWITCHED HI-FI RF OUT
FL101 1.4MHz
CH-1 HI-FI PB RF
TP4
R101 1200 :RN-C
BPF
TP101
Q101 2SC2712 HI-FI CH-1 RF BUFFER
12V
5V
RV2 47k
R13 10k :RB
C8 0.1
R102 1200 :RN-C
R103 47k
C101 0.01
C102 0.01
E101
R104 47k
R105 2200
R185 47k
C103 0.01
C104 0.01
R106 15k :RN
RV103 4700 :RS
C105 1000p :PT
C106 4.7 25V
R193 10k :RN-C
C107 4.7 16V :TA-C
RV101 4700
TP103
C108 47 16V
RV102 4700
CH-1 HI-FI DEMOD OUT/MOD IN
R107 10k :RN
R108 12k :RN
B AMP GAIN ADJ
RV103:1.4MHz VCO ADJ
RV101:CH-1 HI-FI PB LEVEL ADJ
RV102:CH-1 HI-FI DEV.ADJ
RV104:CH-1 HI-FI REF.LEVEL ADJ
R114 10k
C120 47 35V
IC2 (1/2)
AN3972FC
CH-1 HI-FI NR
R194 8200 :RN-C
C109 4.7 25V
AUDIO FILTER
REC
AGC
C111 3.3 25V
RV104 4700
R110 12k :RN
E102
MUTE
CCA
LINE
LEVEL SENSER
C121 10 16V
C122 220 16V
C113 0.1
C114 47 35V
C115 2200p :PT
C116 4.7 25V
C117 0.022 :PT
C118 6.8 25V
C119 0.01 :PT
R113 33k
C14 1 50V
HI-FI MUTE CONTROL
Q12 DTA144EK
Q9 DTA144EK
R29 10k
D5 1S2837
Q11 DTA144EK
SVO-965P ONLY
CH-1 HI-FI TP111
R30 22k
R33 47k
Q10 DTC144EK HI-FI OUT SW
L:HI-FI MUTE IN 312-3 SS (1/3), 141-3
H:HI-FI MUTE OUT 2/2
CH-1 HI-FI OUT 2/2
H:HI-FI OUT 2/2
L:HI-FI OUT IN 312-1 SS (2/3), 141-1
HI-FI CH-1 RF OUT 312-7 SS (3/3), 141-7
N.C 313-2 SS. 140-2
N.C 313-5 SS (3/3), 140-5
TP5 CH-1 REC RF OUT
CH-2 REC RF OUT TP6
R27 1800
R28 680
C204 0.01
IC1 (3/3)
AN3932S
CH-2 MOD/DEMOD
SAME AS CH-1
FL201 1.8MHz CH-2 HI-FI PB RF
TP201
R201 1200 :RN-C
C201 0.01
Q6 DTA144EK HI-FI REC SW
Q8 2SC2712 HI-FI REC RF BUFFER
R25 47k
RJ2 0
R24 1k
R26 47k
Q201 2SC2712 HI-FI CH-2 RF BUFFER
R203 47k
C202 0.01
R202 1200 :RN-C
R204 47k
C203 0.01
R205 2200
R285 47k
R206 10k :RN
RV203 4700 :RS
C205 1000p :PT
CH-2 HI-FI DEMOD OUT/MOD IN
C218 0.1
C206 4.7 25V
C207 4.7 16V :TA-C
R293 10k :RN-C
RV201 4700
TP203
C208 47 16V
RV202 4700
R207 10k :RN
R208 12k :RN
RV203:1.8MHz VCO ADJ
RV201:CH-2 HI-FI PB LEVEL ADJ
RV202:CH-2 HI-FI DEV.ADJ
RV204:CH-2 HI-FI REF.LEVEL ADJ
IC2 (2/2)
AN3972FC
CH-2 HI-FI NR
R294 8200 :RN-C
C209 4.7 25V
C211 3.3 25V
RV204 4700
E202
R210 12k :RN
C213 2200p :PT
C214 4.7 25V
C215 0.022 :PT
C216 6.8 25V
C217 0.01 :PT
C221 10 16V
C222 220 16V
CH-2 HI-FI TP211
CH-2 HI-FI OUT 2/2
HI-FI CH-2 RF OUT 312-8 SS (3/3), 141-8
1
2
3
4
5
I
I
J
K
L
M
N
O
P

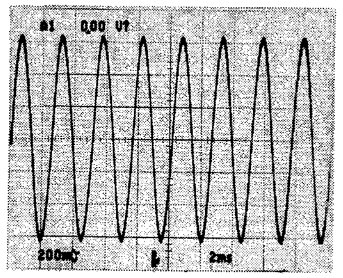

IC3 (3/3)
NJM4580D
C161 0.1
12V
8
3
4

REF	FIN.REF								
	000	100	200	300	400	500	600	700	800
C	014	170	270	310	408				
R	033	197	297	333	417				
RV	002	110	210	—	404				
L	003	102	202	—	401				
FL	—	102	202	—	—				
TP	006	111	211	—	402				
E	104	204	—	—	401				
T	—	—	—	—	401				
D	005	104	206	308	402				
Q	012	130	231	306	405				
IC	009	103	203	—	—				

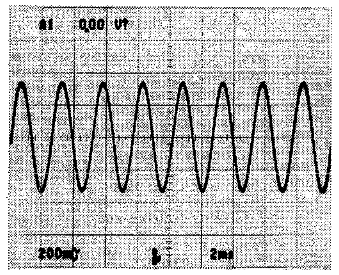
AU-190B/190C (1/2)

1-650-149-12 (1)
SVO-965P
SVO-915P

① TP107/207 PB mode



② TP108/208 PB mode



Measurement Condition

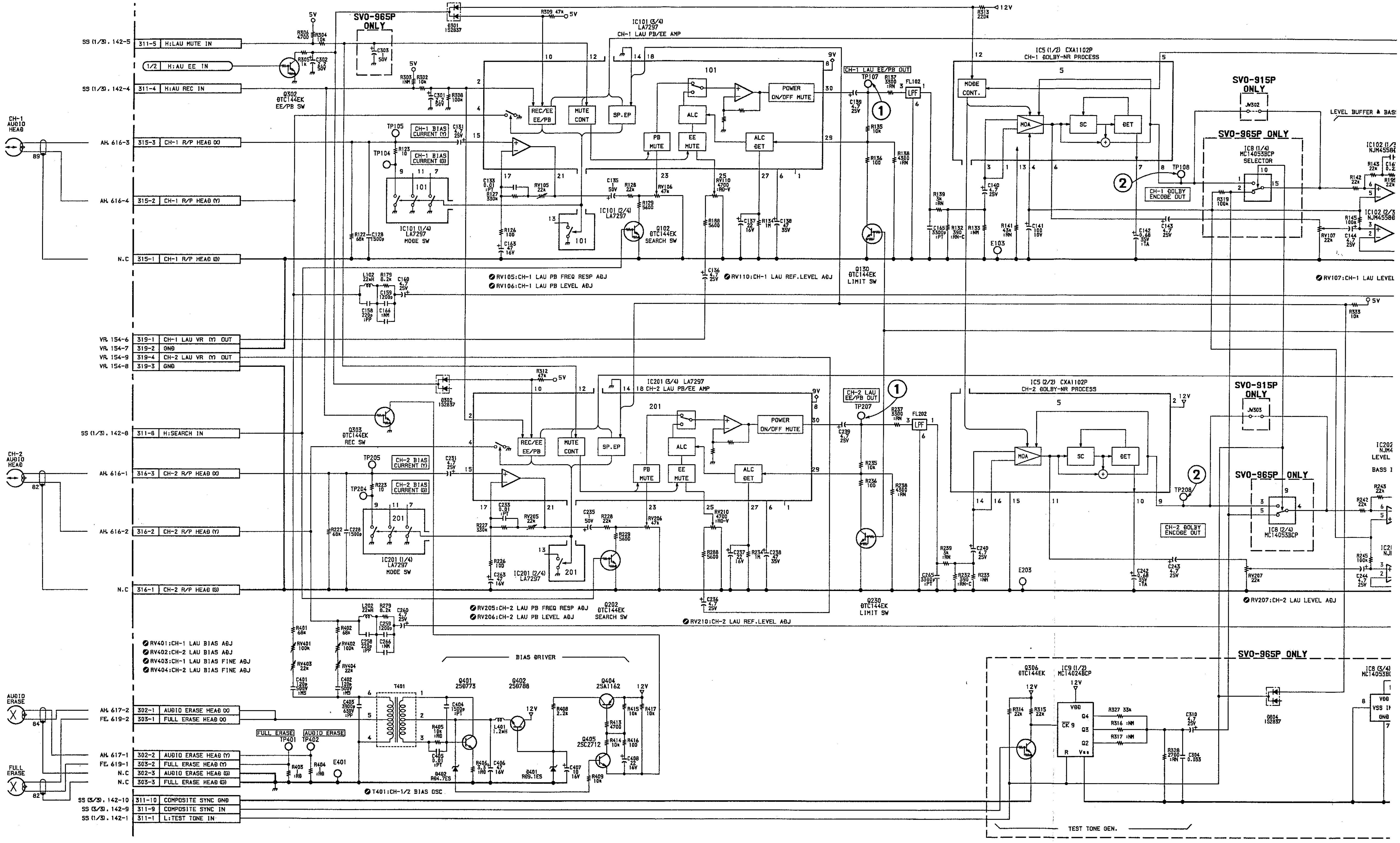
CH-1, AUDIO IN: 400 Hz, −10 dBu
PB mode: KRV-31PS

AU-190B/190C (1-650-149-12)

TP1	A-3
TP2	A-3
TP4	B-1
TP5	B-2
TP6	B-2
TP101	A-1
TP103	B-1
TP104	K-2
TP105	K-2
TP107	J-1
TP108	G-3
TP110	K-2
TP111	D-1
TP201	B-3
TP203	A-2
TP204	I-2
TP205	I-2
TP207	G-2
TP208	E-1
TP210	I-2
TP211	C-2
TP401	L-4
TP402	L-4

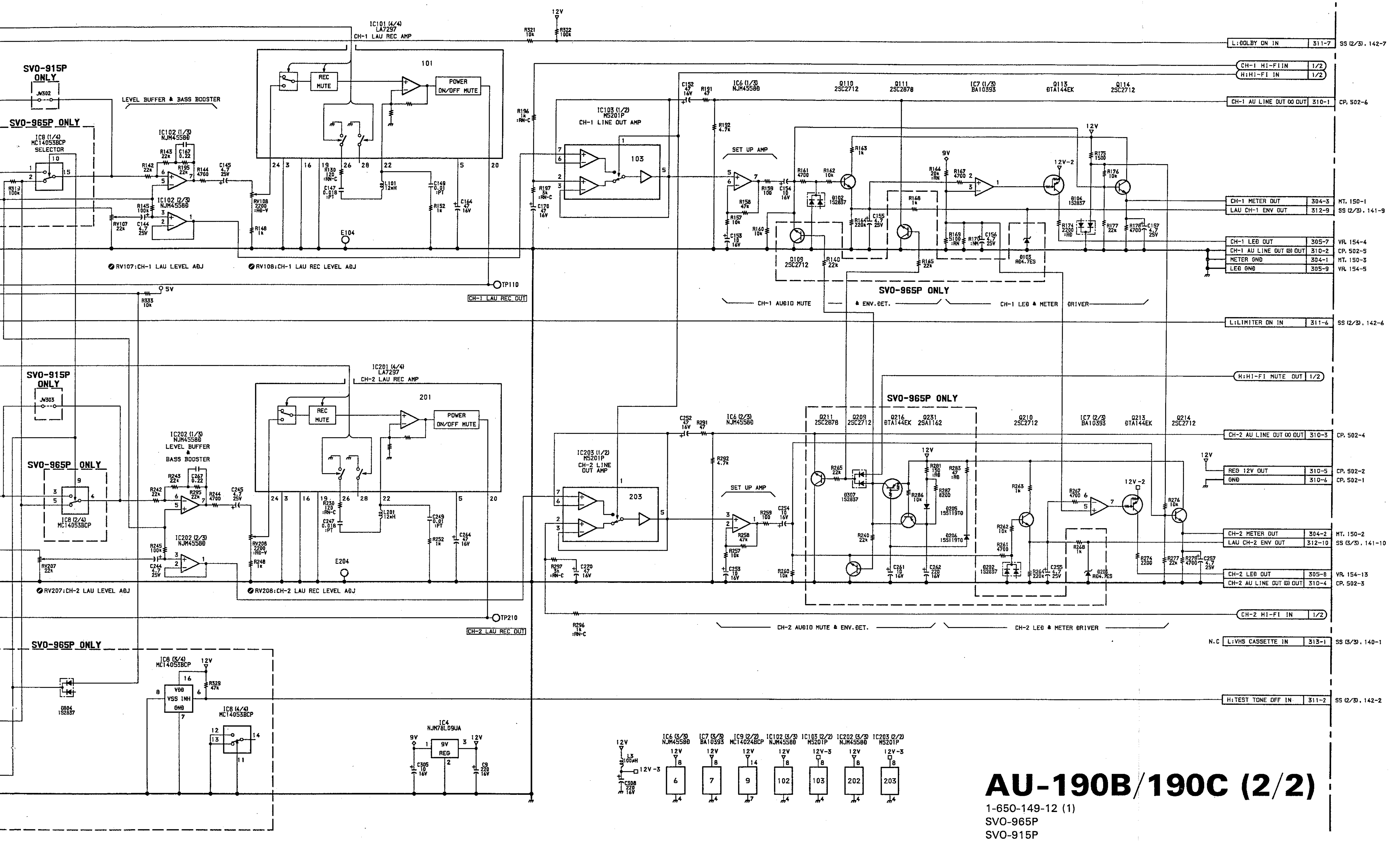
AU-190B/190C (2/2)

AU-190B/190C (2/2) ; HiFi PROCESS/NORMAL AUDIO PROCESS


SS (1/3). 142-5 | 311-5 | H:LAU MUTE IN
1/2 | H:AU EE IN
SS (1/3). 142-4 | 311-4 | H:AU REC IN
CH-1 AUDIO HEAD
AH. 616-3 | 315-3 | CH-1 R/P HEAD (X)
AH. 616-4 | 315-2 | CH-1 R/P HEAD (Y)
N.C | 315-1 | CH-1 R/P HEAD (G)
VR. 154-6 | 319-1 | CH-1 LAU VR (Y) OUT
VR. 154-7 | 319-2 | GND
VR. 154-9 | 319-4 | CH-2 LAU VR (Y) OUT
VR. 154-8 | 319-3 | GND
SS (1/3). 142-8 | 311-6 | H:SEARCH IN
CH-2 AUDIO HEAD
AH. 616-1 | 316-3 | CH-2 R/P HEAD (X)
AH. 616-2 | 316-2 | CH-2 R/P HEAD (Y)
N.C | 316-1 | CH-2 R/P HEAD (G)
AUDIO ERASE
FULL ERASE
AH. 617-2 | 302-1 | AUDIO ERASE HEAD (X)
FE. 619-2 | 303-1 | FULL ERASE HEAD (X)
AH. 617-1 | 302-2 | AUDIO ERASE HEAD (Y)
FE. 619-1 | 303-2 | FULL ERASE HEAD (Y)
N.C | 302-3 | AUDIO ERASE HEAD (G)
N.C | 303-3 | FULL ERASE HEAD (G)
SS (3/3). 142-10 | 311-10 | COMPOSITE SYNC GND
SS (3/3). 142-9 | 311-9 | COMPOSITE SYNC IN
SS (1/3). 142-1 | 311-1 | L:TEST TONE IN
SVO-965P ONLY
Q302 DTC144EK EE/PB SW
Q303 DTC144EK REC SW
IC101 (3/4) LA7297 CH-1 LAU PB/EE AMP
IC201 (3/4) LA7297 CH-2 LAU PB/EE AMP
REC/EE EE/PB
MUTE CONT
SP.EP
PB MUTE
EE MUTE
ALC
ALC DET
POWER ON/OFF MUTE
CH-1 BIAS CURRENT (Y)
CH-1 BIAS CURRENT (G)
CH-2 BIAS CURRENT (Y)
CH-2 BIAS CURRENT (G)
IC101 (1/4) LA7297 MODE SW
IC101 (2/4) LA7297
IC201 (1/4) LA7297 MODE SW
IC201 (2/4) LA7297
Q102 DTC144EK SEARCH SW
Q202 DTC144EK SEARCH SW
RV105:CH-1 LAU PB FREQ RESP ADJ
RV106:CH-1 LAU PB LEVEL ADJ
RV110:CH-1 LAU REF.LEVEL ADJ
RV205:CH-2 LAU PB FREQ RESP ADJ
RV206:CH-2 LAU PB LEVEL ADJ
RV210:CH-2 LAU REF.LEVEL ADJ
CH-1 LAU EE/PB OUT
CH-2 LAU EE/PB OUT
Q130 DTC144EK LIMIT SW
Q230 DTC144EK LIMIT SW
FL102 LPF
FL202 LPF
IC5 (1/2) CXA1102P CH-1 DOLBY-NR PROCESS
IC5 (2/2) CXA1102P CH-2 DOLBY-NR PROCESS
MODE CONT.
MDA
SC
DET
CH-1 DOLBY ENCODE OUT
CH-2 DOLBY ENCODE OUT
SVO-915P ONLY
SVO-965P ONLY
IC8 (1/4) MC14053BCP SELECTOR
IC8 (2/4) MC14053BCP
IC102 (1/2) NJM4558
IC102 (2/2) NJM4558
LEVEL BUFFER & BASS
RV107:CH-1 LAU LEVEL
RV207:CH-2 LAU LEVEL ADJ
12V
9V
5V
RV401:CH-1 LAU BIAS ADJ
RV402:CH-2 LAU BIAS ADJ
RV403:CH-1 LAU BIAS FINE ADJ
RV404:CH-2 LAU BIAS FINE ADJ
FULL ERASE TP401
AUDIO ERASE TP402
E401
T401
BIAS DRIVER
Q401 2SD773
Q402 2SD786
Q404 2SA1162
Q405 2SC2712
T401:CH-1/2 BIAS OSC
Q306 DTC144EK
IC9 (1/2) MC14024BCP
TEST TONE GEN.
IC8 (3/4) MC14053B
D301 1S2837
D302 1S2837
D304 1S2837

10-15

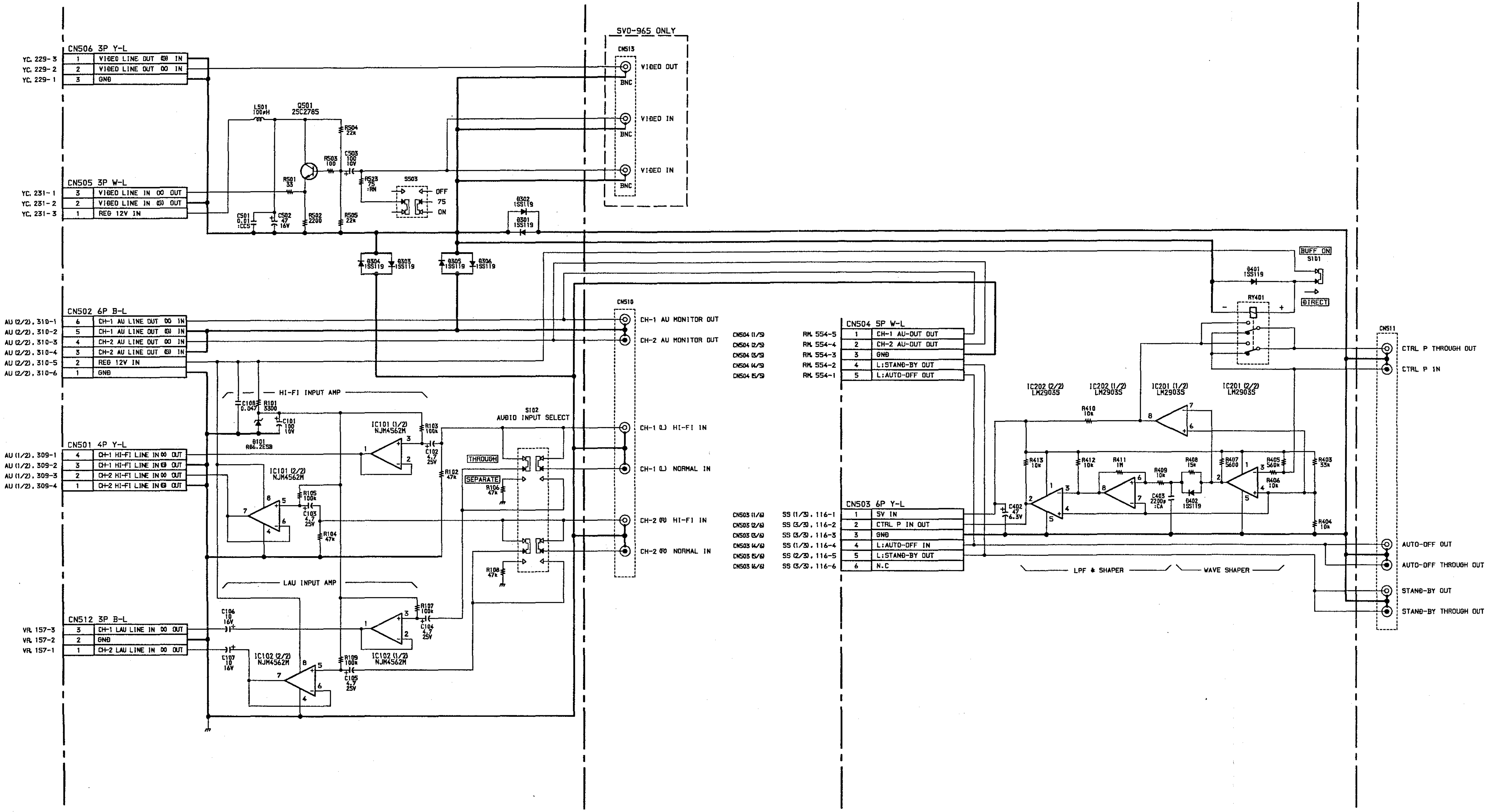
AU-190B/190C (2/2)


SVO-915P ONLY
JW302
SVO-965P ONLY
IC8 (1/4) MC14053BCP SELECTOR
LEVEL BUFFER & BASS BOOSTER
IC102 (1/3) NJM4558D
IC102 (2/3) NJM4558D
IC101 (4/4) LA7297 CH-1 LAU REC AMP
101
REC MUTE
POWER ON/OFF MUTE
E104
RV107:CH-1 LAU LEVEL ADJ
RV108:CH-1 LAU REC LEVEL ADJ
TP110
CH-1 LAU REC OUT
5V
12V
IC103 (1/2) M5201P CH-1 LINE OUT AMP
103
SET UP AMP
IC6 (1/3) NJM4558D
Q110 2SC2712
Q111 2SC2878
IC7 (1/3) BA10393
Q113 DTA144EK
Q114 2SC2712
Q109 2SC2712
D102 1SS357
D103 RD4.7ES
D104 1SS357
12V-2
9V
SVO-965P ONLY
CH-1 AUDIO MUTE & ENV.DET.
CH-1 LED & METER DRIVER
L:DOLBY ON IN 311-7 SS (2/3). 142-7
CH-1 HI-FI IN 1/2
H:HI-FI IN 1/2
CH-1 AU LINE OUT (+) OUT 310-1 CP. 502-6
CH-1 METER OUT 304-3 MT. 150-1
LAU CH-1 ENV OUT 312-9 SS (2/3). 141-9
CH-1 LED OUT 305-7 VR. 154-4
CH-1 AU LINE OUT (-) OUT 310-2 CP. 502-5
METER GND 304-1 MT. 150-3
LED GND 305-9 VR. 154-5
L:LIMITER ON IN 311-6 SS (2/3). 142-6
SVO-915P ONLY
JW303
IC201 (4/4) LA7297 CH-2 LAU REC AMP
201
IC202 (1/3) NJM4558D LEVEL BUFFER & BASS BOOSTER
IC202 (2/3) NJM4558D
IC8 (2/4) MC14053BCP
E204
RV207:CH-2 LAU LEVEL ADJ
RV208:CH-2 LAU REC LEVEL ADJ
TP210
CH-2 LAU REC OUT
IC203 (1/2) M5201P CH-2 LINE OUT AMP
203
IC6 (2/3) NJM4558D
Q211 2SC2878
Q209 2SC2712
Q216 DTA144EK
Q231 2SA1162
Q210 2SC2712
IC7 (2/3) BA10393
Q213 DTA144EK
Q214 2SC2712
D207 1SS357
D205 1SS119TD
D206 1SS119TD
D202 1SS357
D203 RD4.7ES
CH-2 AUDIO MUTE & ENV.DET.
CH-2 LED & METER DRIVER
H:HI-FI MUTE OUT 1/2
CH-2 AU LINE OUT (+) OUT 310-3 CP. 502-4
REG 12V OUT 310-5 CP. 502-2
GND 310-6 CP. 502-1
CH-2 METER OUT 304-2 MT. 150-2
LAU CH-2 ENV OUT 312-10 SS (3/3). 141-10
CH-2 LED OUT 305-8 VR. 154-13
CH-2 AU LINE OUT (-) OUT 310-4 CP. 502-3
CH-2 HI-FI IN 1/2
N.C L:VHS CASSETTE IN 313-1 SS (3/3). 140-1
H:TEST TONE OFF IN 311-2 SS (2/3). 142-2
SVO-965P ONLY
D804 1SS357
IC8 (3/4) MC14053BCP
VDD VSS INH GND
IC8 (4/4) MC14053BCP
IC4 NJM78L09UA
9V REG
L3 100μH
12V-3
IC6 (3/3) NJM4558D
IC7 (3/3) BA10393
IC9 (2/2) MC14024BCP
IC102 (3/3) NJM4558D
IC103 (2/2) M5201P
IC202 (3/3) NJM4558D
IC203 (2/2) M5201P
H
I
J
K
L
M
N
O
P

AU-190B/190C (2/2)

1-650-149-12 (1)
SVO-965P
SVO-915P

CP-151/151A ; CONNECTOR PANEL


CN506 3P Y-L
VIDEO LINE OUT IN
GND
YC 229-3
YC 229-2
YC 229-1
SVO-965 ONLY
CN513
VIDEO OUT
VIDEO IN
VIDEO IN
BNC
L501 100μH
Q501 2SC2785
R504 22k
R503 100
C503 100 10V
R523 75
S503
OFF
75
ON
CN505 3P W-L
VIDEO LINE IN OUT
REG 12V IN
YC 231-1
YC 231-2
YC 231-3
R501 33
C501 0.01
C502 47 16V
R502 2200
R505 22k
D302 1SS119
D301 1SS119
D304 1SS119
D303 1SS119
D305 1SS119
D306 1SS119
CN502 6P B-L
CH-1 AU LINE OUT IN
CH-2 AU LINE OUT IN
REG 12V IN
GND
AU (2/2), 310-1
AU (2/2), 310-2
AU (2/2), 310-3
AU (2/2), 310-4
AU (2/2), 310-5
AU (2/2), 310-6
CN510
CH-1 AU MONITOR OUT
CH-2 AU MONITOR OUT
HI-FI INPUT AMP
C108 0.047
R101 3300
C101 100 10V
D101 RD6.2ESB
IC101 (1/2) NJM4562M
IC101 (2/2) NJM4562M
R103 100k
C102 4.7 25V
R102 47k
R105 100k
C103 4.7 25V
R104 47k
S102 AUDIO INPUT SELECT
THROUGH
SEPARATE
R106 47k
R108 47k
CN501 4P Y-L
CH-1 HI-FI LINE IN OUT
CH-2 HI-FI LINE IN OUT
AU (1/2), 309-1
AU (1/2), 309-2
AU (1/2), 309-3
AU (1/2), 309-4
CH-1 (L) HI-FI IN
CH-1 (L) NORMAL IN
CH-2 (R) HI-FI IN
CH-2 (R) NORMAL IN
LAU INPUT AMP
CN512 3P B-L
CH-1 LAU LINE IN OUT
GND
CH-2 LAU LINE IN OUT
VR 157-3
VR 157-2
VR 157-1
C106 10 16V
C107 10 16V
R107 100k
C104 4.7 25V
IC102 (2/2) NJM4562M
IC102 (1/2) NJM4562M
R109 100k
C105 4.7 25V
CN504 5P W-L
CH-1 AU-OUT OUT
CH-2 AU-OUT OUT
GND
L:STAND-BY OUT
L:AUTO-OFF OUT
RM 554-5
RM 554-4
RM 554-3
RM 554-2
RM 554-1
CN503 6P Y-L
5V IN
CTRL P IN OUT
GND
L:AUTO-OFF IN
L:STAND-BY IN
N.C
SS (1/3), 116-1
SS (3/3), 116-2
SS (3/3), 116-3
SS (1/3), 116-4
SS (2/3), 116-5
SS (3/3), 116-6
BUFF ON
S101
DIRECT
D401 1SS119
RY401
IC202 (2/2) LM2903S
IC202 (1/2) LM2903S
IC201 (1/2) LM2903S
IC201 (2/2) LM2903S
R410 10k
R413 10k
R412 10k
R411 1M
R409 10k
R408 15k
R407 5600
R405 560k
R406 10k
R403 33k
R404 10k
C402 47 6.3V
C403 2200p
D402 1SS119
LPF & SHAPER
WAVE SHAPER
CN511
CTRL P THROUGH OUT
CTRL P IN
AUTO-OFF OUT
AUTO-OFF THROUGH OUT
STAND-BY OUT
STAND-BY THROUGH OUT
1
2
3
4
5
A
B
C
D
E
F
G
H

CP-151/151A

1-639-703-14 (1)
SVO-965P
SVO-915P

L P THROUGH OUT

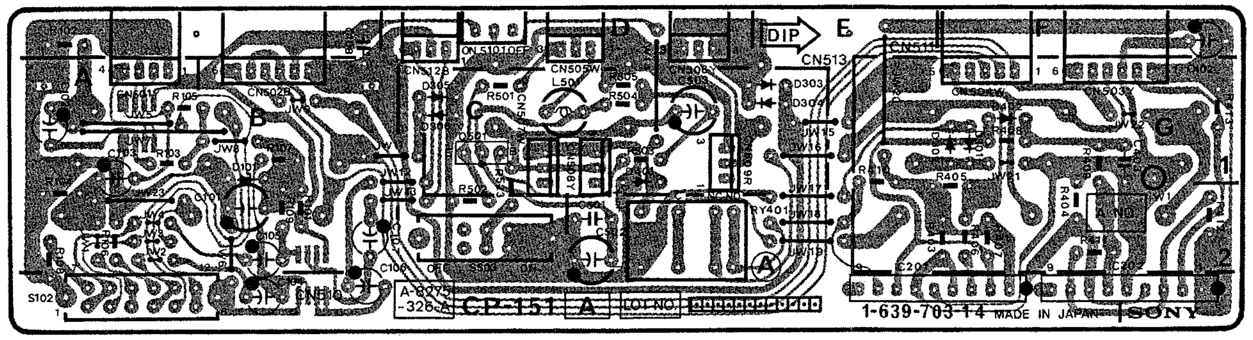
L P IN

O-OFF OUT

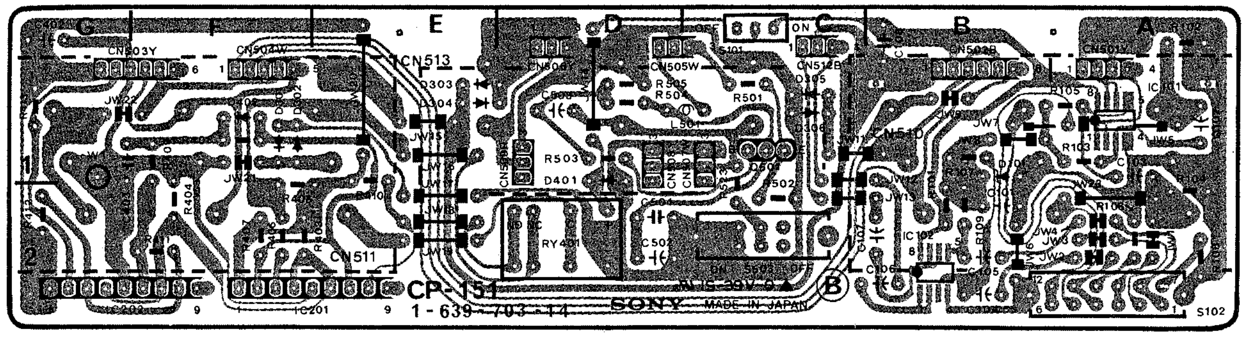
O-OFF THROUGH OUT

NO-BY OUT

NO-BY THROUGH OUT


A
B
C
D
E
F
G
DIP
CN501
CN502
CN503
CN504
CN505W
CN506
CN510
CN511
CN512
CN513
R105
R103
R501
R502
R503
R504
R505
R405
R404
D101
D303
D304
D305
D306
RY401
C106
C201
L501
S102
A-8275-326-A
CP-151
LOT NO.
1-639-703-14 MADE IN JAPAN
SONY

CP-151/151A — A SIDE —
1-639-703-14 (1)
SVO-965P
SVO-915P


A
B
C
D
E
F
G
CN503Y
CN504W
CN513
CN506
CN505W
CN512B
CN502B
CN501
CN511
D303
D304
D305
D401
R503
R505
R504
R501
R502
R404
R105
R103
L501
RY401
C502
C106
IC101
IC201
IC202
S102
S503
CP-151
1-639-703-14
SONY
MADE IN JAPAN

CP-151/151A — B SIDE —
1-639-703-14 (1)
SVO-965P
SVO-915P

CP-151/151A (1-639-703-14)

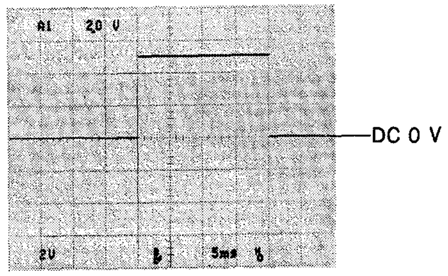
CN501	A-1
CN502	B-1
CN503	F-1
CN504	F-1
CN505	D-1
CN506	D-1
CN510	B-2
CN511	E-1
CN512	C-1
CN513	E-1
D101	B-1
D301	F-1
D302	E-1
D303	E-1
D304	E-1
D305	C-1
D306	C-1
D401	D-1
D402	F-1
IC101	A-1 *
IC102	B-2 *
IC201	E-2
IC202	G-2
Q501	C-1
RY401	D-2
S101	C-1
S102	A-2
S503	C-2

* mark ; B SIDE mount

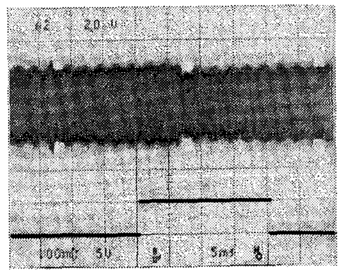
VR-125 ; AUDIO LEVEL CONTROL

Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

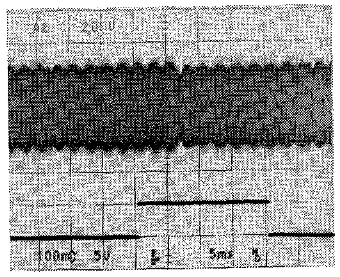
① TP1 (PG) REC/PB mode



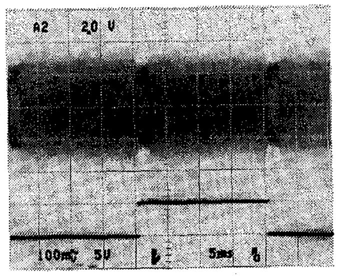
② TP1 (HI-FI CH-2) PB mode



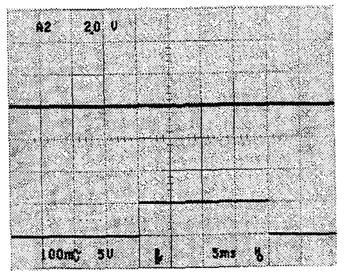
③ TP1 (HI-FI CH-1) PB mode

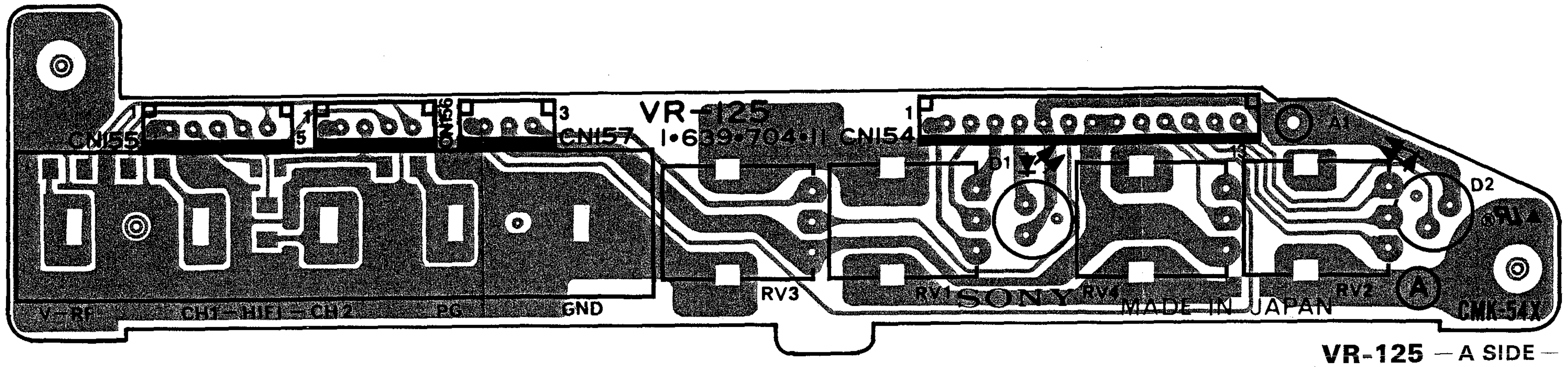


④ TP1 (V-RF) PB mode



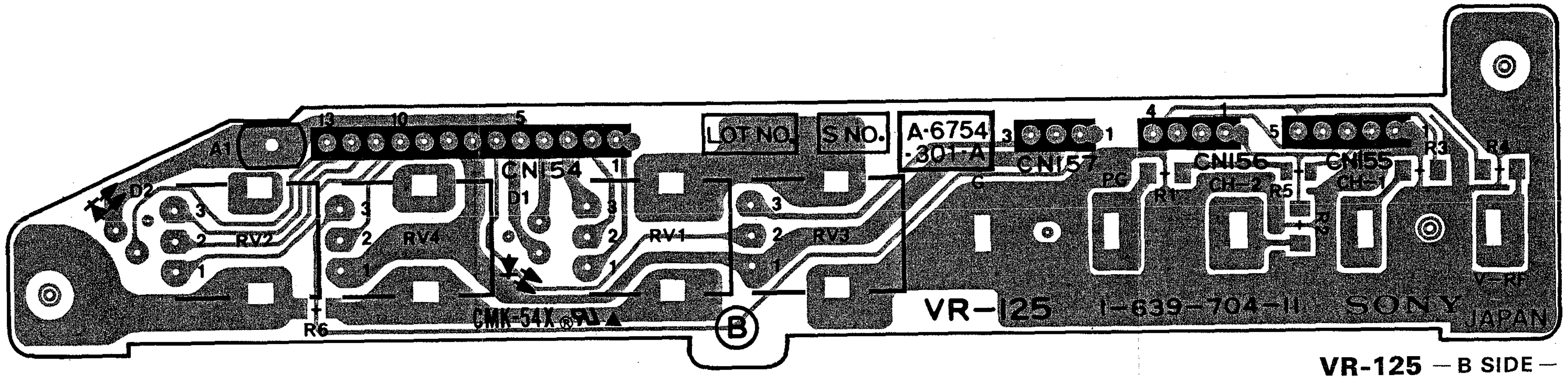
TP1 (V-RF) REC mode




CN155
CN156
CN157
CN154
VR-125
1-639-704-11
A1
D1
D2
RV3
RV1
RV4
RV2
V-RF
CH1 HIFI CH2
PG
GND
SONY
MADE IN JAPAN
A
CMK-54X

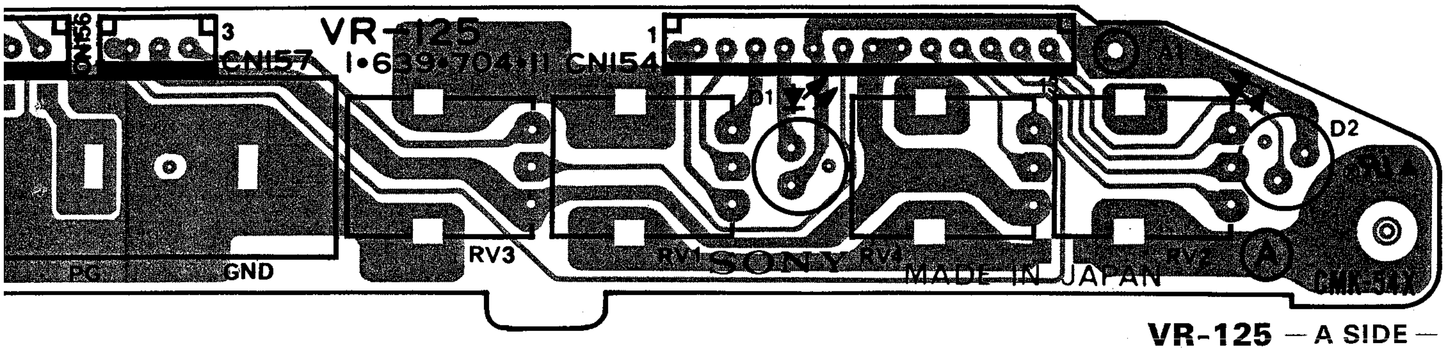
VR-125 — A SIDE —
1-639-704-11 (1)
SVO-965P
SVO-915P

A Side is the same as COMPONENT Side


A1
D2
D1
CN154
RV2
RV4
RV1
RV3
LOT NO.
S NO.
A-6754-301-A
CN157
CN156
CN155
PG
CH-2
CH-1
R1
R2
R3
R4
R5
R6
V-RF
VR-125
1-639-704-11
SONY
JAPAN
CMK-54X
B

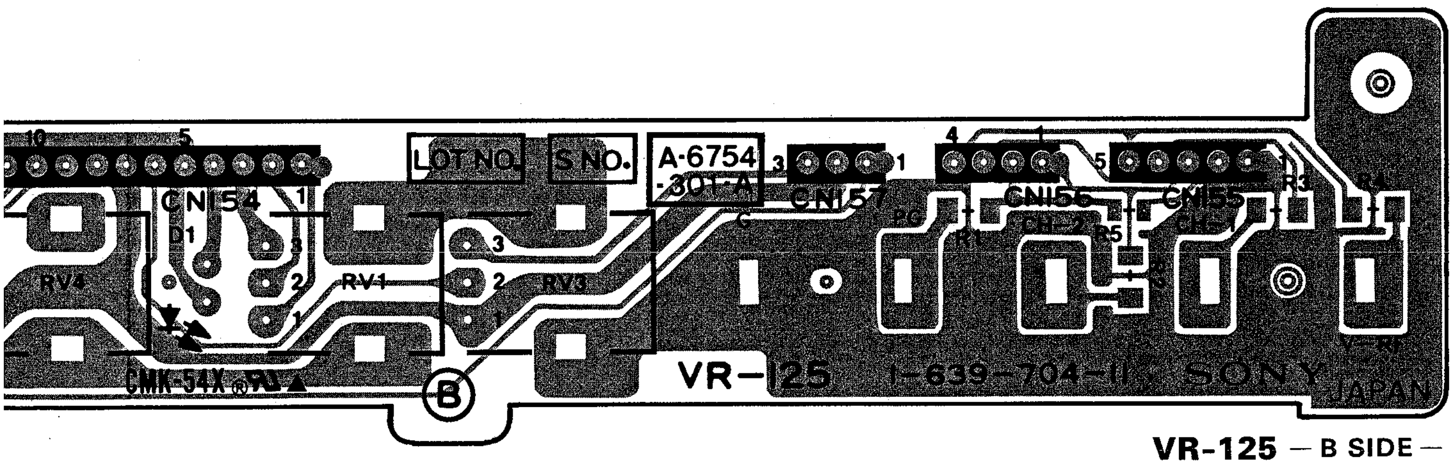
VR-125 — B SIDE —
1-639-704-11 (1)
SVO-965P
SVO-915P

B Side is the same as SOLDER Side


CN156
3
CN157
VR-125
1-639-704-11
CN154
1
D1
D2
A
PG
GND
RV3
RV1
RV4
RV2
SONY
MADE IN JAPAN
CMK-54X

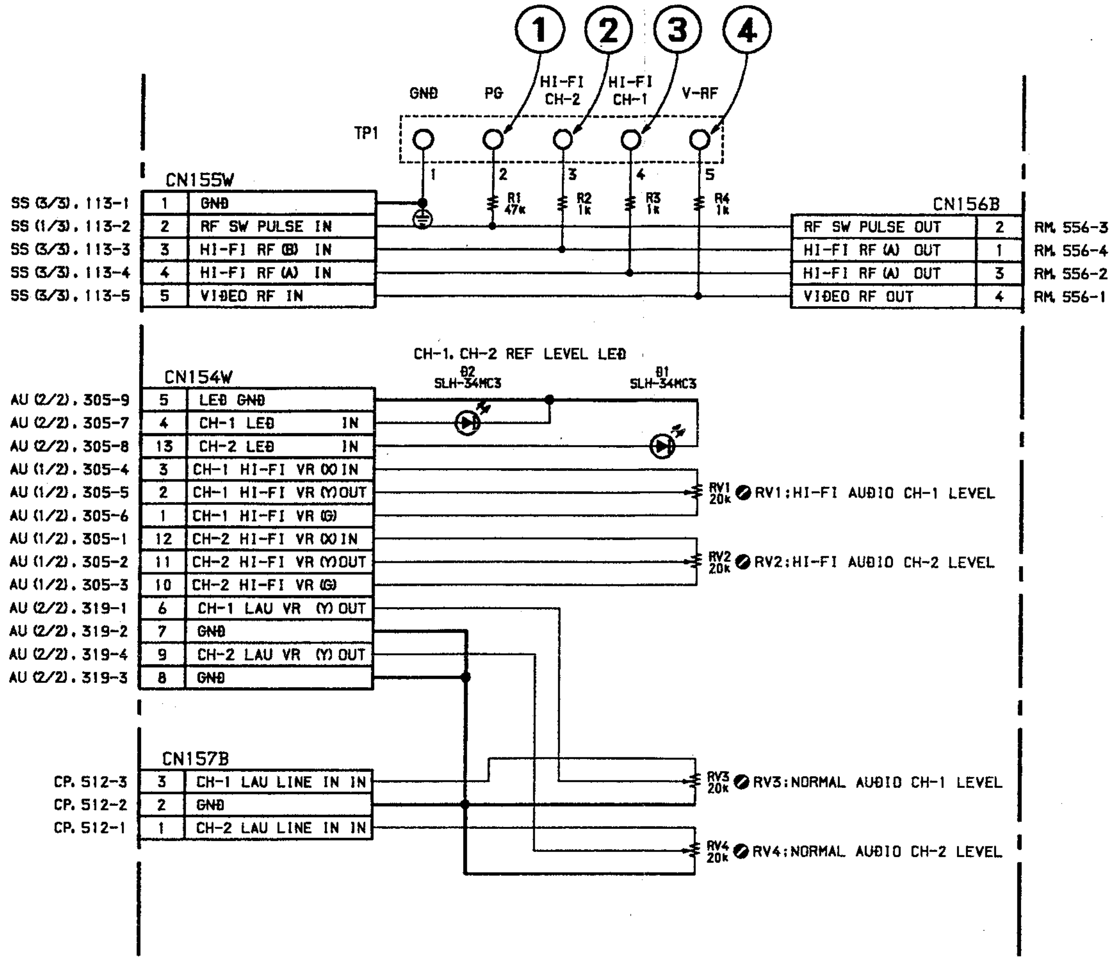
VR-125 — A SIDE —
1-639-704-11 (1)
SVO-965P
SVO-915P

A Side is the same as COMPONENT Side


10
5
LOT NO.
S NO.
A-6754-301-A
3
1
CN157
4
1
CN156
5
CN155
CN154
RV4
RV1
RV3
1
2
3
R1
R3
CH-2
CH-1
B
CMK-54X
VR-125
1-639-704-11
SONY
JAPAN

VR-125 — B SIDE —
1-639-704-11 (1)
SVO-965P
SVO-915P

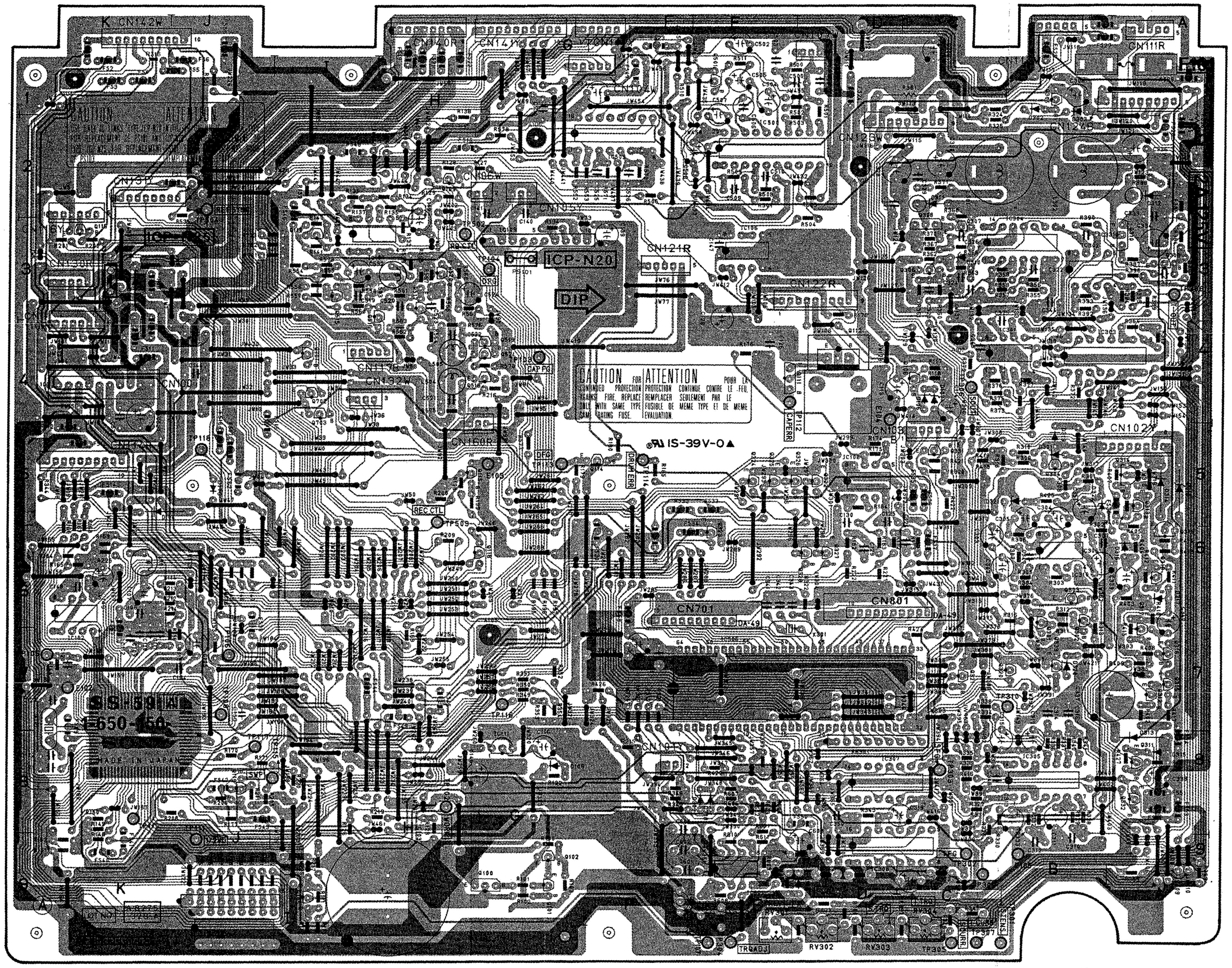
B Side is the same as SOLDER Side


①
②
③
④
GND
PG
HI-FI CH-2
HI-FI CH-1
V-RF
TP1
1
2
3
4
5
R1 47k
R2 1k
R3 1k
R4 1k
CN155W
SS (3/3). 113-1 | 1 | GND
SS (1/3). 113-2 | 2 | RF SW PULSE IN
SS (3/3). 113-3 | 3 | HI-FI RF (B) IN
SS (3/3). 113-4 | 4 | HI-FI RF (A) IN
SS (3/3). 113-5 | 5 | VIDEO RF IN
CN156B
RF SW PULSE OUT | 2 | RM. 556-3
HI-FI RF (A) OUT | 1 | RM. 556-4
HI-FI RF (A) OUT | 3 | RM. 556-2
VIDEO RF OUT | 4 | RM. 556-1
CH-1. CH-2 REF LEVEL LED
D2 SLH-34MC3
D1 SLH-34MC3
CN154W
AU (2/2). 305-9 | 5 | LED GND
AU (2/2). 305-7 | 4 | CH-1 LED IN
AU (2/2). 305-8 | 13 | CH-2 LED IN
AU (1/2). 305-4 | 3 | CH-1 HI-FI VR (X) IN
AU (1/2). 305-5 | 2 | CH-1 HI-FI VR (Y) OUT
AU (1/2). 305-6 | 1 | CH-1 HI-FI VR (G)
AU (1/2). 305-1 | 12 | CH-2 HI-FI VR (X) IN
AU (1/2). 305-2 | 11 | CH-2 HI-FI VR (Y) OUT
AU (1/2). 305-3 | 10 | CH-2 HI-FI VR (G)
AU (2/2). 319-1 | 6 | CH-1 LAU VR (Y) OUT
AU (2/2). 319-2 | 7 | GND
AU (2/2). 319-4 | 9 | CH-2 LAU VR (Y) OUT
AU (2/2). 319-3 | 8 | GND
RV1 20k
RV1: HI-FI AUDIO CH-1 LEVEL
RV2 20k
RV2: HI-FI AUDIO CH-2 LEVEL
CN157B
CP. 512-3 | 3 | CH-1 LAU LINE IN IN
CP. 512-2 | 2 | GND
CP. 512-1 | 1 | CH-2 LAU LINE IN IN
RV3 20k
RV3: NORMAL AUDIO CH-1 LEVEL
RV4 20k
RV4: NORMAL AUDIO CH-2 LEVEL

VR-125

1-639-704-11 (1)
SVO-965P
SVO-915P

SS-59B/59C/59D ; SERVO/SYSTEM CONTROL


CN142W
CN140R
CN141
CN111R
CN125W
CN131
CN106W
CN105
ICP-N20
DIP
CN121R
CN122R
CN110
CN132W
CN100
CN158R
CN102
CN103
CN701
CN801
CN107
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE AND RATING FUSE.
ATTENTION POUR LA PROTECTION CONTINUE CONTRE LE FEU, REMPLACER SEULEMENT PAR LE FUSIBLE DE MEME TYPE ET DE MEME EVALUATION.
IS-39V-0▲
CAP FG
DFG
DRUM ERR
CAP ERR
REC CTL
SS-59
1-650-150
MADE IN JAPAN
TRQ ADJ
RV302
RV303
TP305
SENS

SS-59B/59C/59D — A SIDE —
1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)

SS-59B/5

CN100
CN106
CN107
CN110
CN114
CN116
CN122
CN140
CN141
CN142

D104
D105
D106
D107
D108
D109
D110
D301
D302
D303
D308
D309
D310
D311
D312
D313
D314
D315
D316
D317
D318
D319
D320
D321
D322

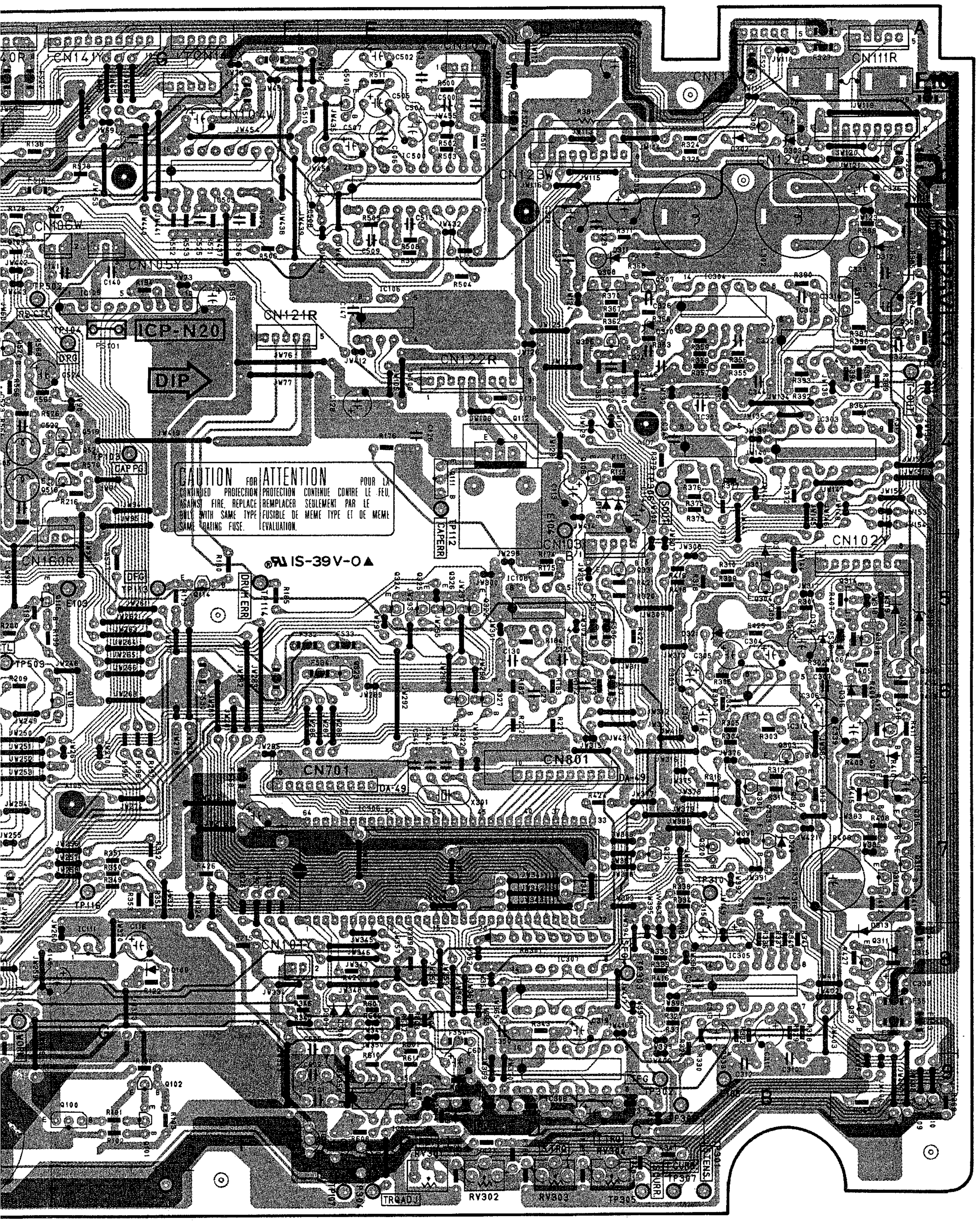
E101

F101

IC101
IC102
IC104
IC106
IC107
IC108
IC109
IC111
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC310
IC500
IC503
IC601

PS101
PS103

Q100
Q101
Q102
Q105


CN121R
CN122R
ICP-N20
DIP
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE SAME RATING FUSE.
ATTENTION POUR LA PROTECTION CONTINUE CONTRE LE FEU, REMPLACER SEULEMENT PAR LE FUSIBLE DE MEME TYPE ET DE MEME EVALUATION.
IS-39V-0
CAPERR
DRUMERR
CN701
CN801
CN102Y
CN105
CN106W
CN123W
CN111R
CN160R
TRQADJ
RV302
RV303

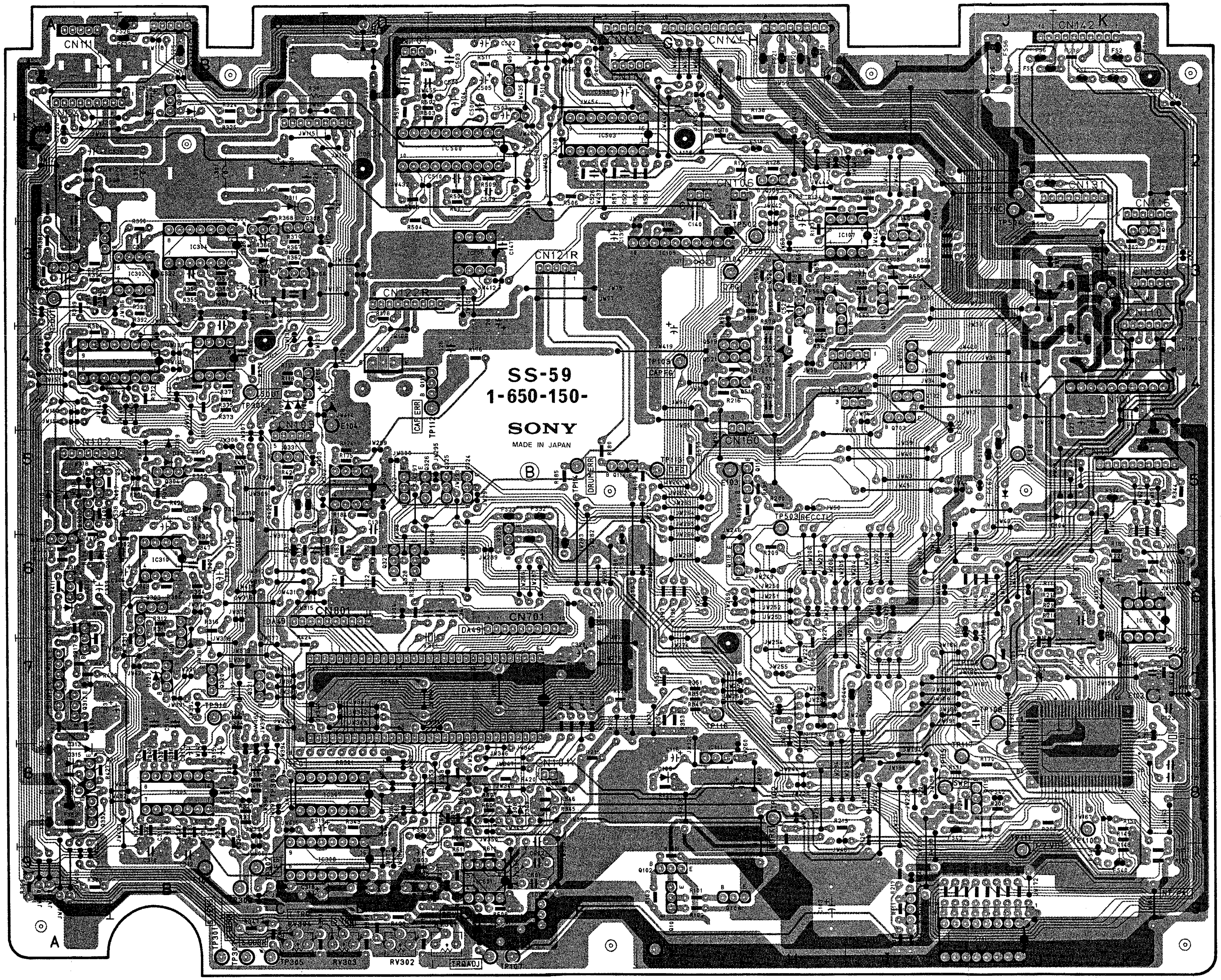
SS-59B/59C/59D — A SIDE —
1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)

SS-59B/59C/59D (1-650-150-12, 13)

CN100	K-4
CN106	H-2
CN107	E-1
CN110	K-3
CN114	K-5
CN116	K-3
CN122	E-3
CN140	H-1
CN141	H-1
CN142	K-1
D104	K-5
D105	K-3
D106	C-4
D107	C-4
D108	D-9
D109	G-8
D110	J-5
D301	B-5
D302	B-2
D303	B-2
D308	E-8
D309	E-8
D310	C-3
D311	C-2
D312	A-2
D313	A-8
D314	A-5
D315	A-8
D316	A-6
D317	A-6
D318	A-5
D319	B-5
D320	B-7
D321	C-5
D322	B-5
E101	G-9
F101	A-1
IC101	K-7 *
IC102	K-7
IC104	E-9
IC106	E-3
IC107	I-3
IC108	D-5
IC109	G-3
IC111	G-8
IC301	C-4
IC302	B-3
IC303	B-4
IC304	B-3
IC305	B-8
IC306	E-7
IC307	D-8
IC308	D-9
IC310	B-6
IC500	E-2
IC503	F-2
IC601	E-9
PS101	G-3
PS103	K-3
Q100	G-9
Q101	G-9
Q102	G-9
Q105	I-9
Q106	C-4
Q109	H-2
Q110	I-3
Q111	D-4
Q112	D-4
Q114	F-5
Q115	H-5
Q116	K-3
Q118	G-6
Q119	J-8
Q301	B-7
Q302	B-7
Q303	B-6
Q304	B-5
Q305	B-1
Q306	C-3
Q307	C-3
Q308	C-2
Q309	A-3
Q310	A-3
Q311	A-8
Q312	A-7
Q313	A-5
Q314	A-5
Q315	A-7
Q316	A-7
Q317	A-6
Q318	A-6
Q319	A-6
Q320	C-7
Q321	C-7
Q322	D-5
Q323	E-5
Q324	E-5
Q325	E-5
Q326	D-5
Q327	D-6
Q328	D-6
Q331	C-5
Q332	A-8
Q333	B-7
Q501	E-1
Q515	I-3
Q516	I-3
Q517	H-3
Q518	H-4
Q519	G-4
Q520	H-3
Q521	G-4
Q701	I-4
Q702	I-4
Q703	I-4
RB101	I-9
RB301	D-8
RV301	E-9
RV302	D-9
S101	I-9
TP106	J-7
TP107	E-9
TP111	J-8
TP301	B-9
TP304	E-9
TP305	C-9
TP307	C-9
X101	K-7
X301	D-7

* mark ; B SIDE mount

SS-59B/59C/59D ; SERVO/SYSTEM CONTROL


SS-59
1-650-150-
SONY
MADE IN JAPAN
CN111
CN142
CN102
CN601
CN701
CN121R
CN122R
CN131
CN106
IC300
IC503
RV302
RV303
TP301
TP305
A
B

SS-59B/59C/59D — B SIDE —
1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)

SS-59

CN10
CN10
CN10
CN11
CN11
CN11
CN12
CN14
CN14
CN14

D104
D105
D106
D107
D108
D109
D110
D301
D302
D303
D308
D309
D310
D311
D312
D31
D314
D31
D31
D31
D31
D31
D32
D32
D32

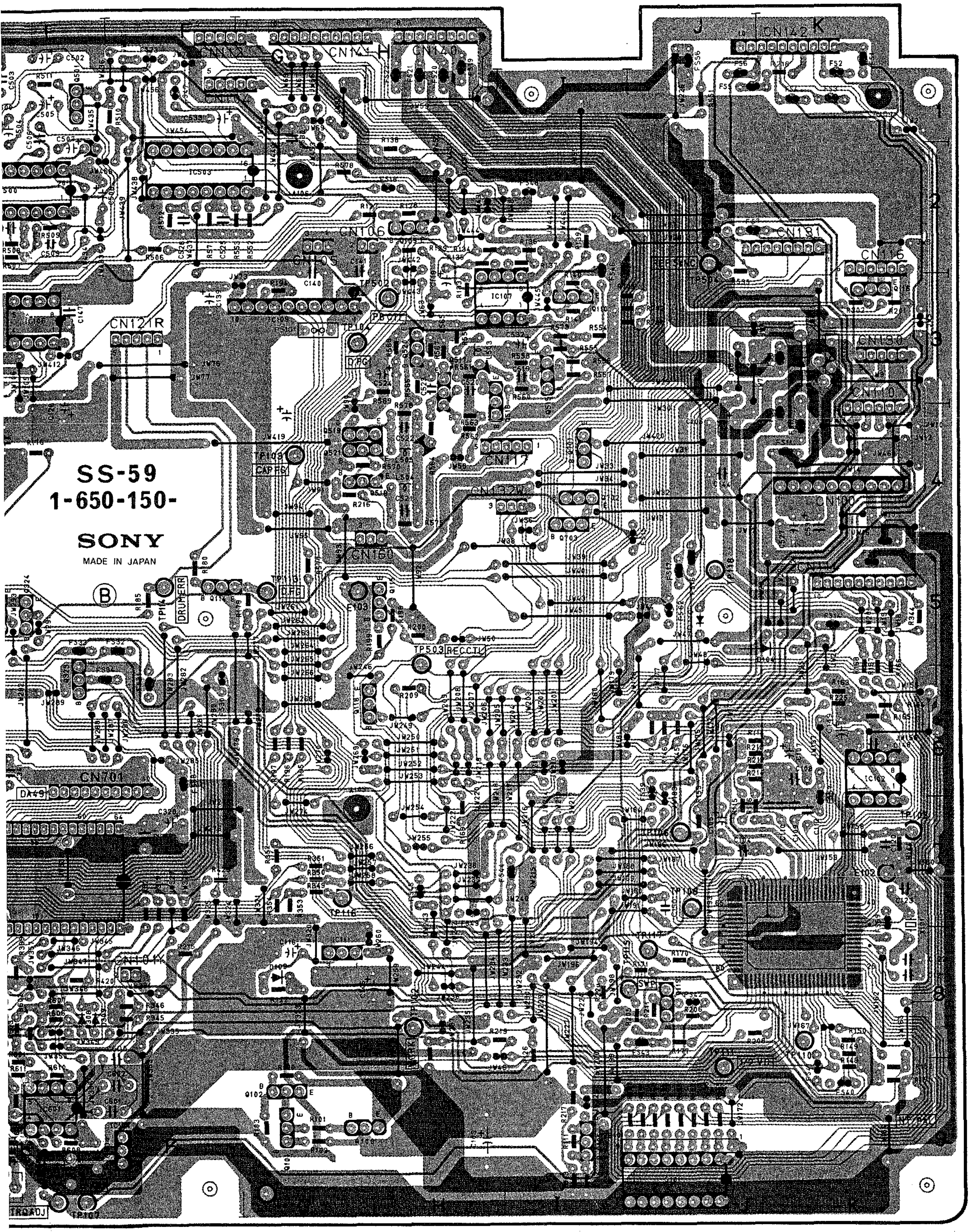
E10

F101

IC10
IC10
IC10
IC10
IC10
IC10
IC10
IC111
IC301
IC30
IC30
IC30
IC30
IC30
IC30
IC30
IC31
IC50
IC50
IC601

PS10
PS10

Q100
Q101
Q102
Q105


SS-59
1-650-150-
SONY
MADE IN JAPAN
B
CN142
CN106
CN121R
CN117
CN150
CN131
CN116
CN110
CN100
CN701
CN101Y
TP503
RECCTL
DRUM ERR
J
K
1
2
3
4
5
6
7
8

SS-59B/59C/59D — B SIDE —
1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)

SS-59B/59C/59D (1-650-150-12, 13)

CN100	K-4
CN106	H-2
CN107	E-1
CN110	K-3
CN114	K-5
CN116	K-3
CN122	E-3
CN140	H-1
CN141	H-1
CN142	K-1
D104	K-5
D105	K-3
D106	C-4
D107	C-4
D108	D-9
D109	G-8
D110	J-5
D301	B-5
D302	B-2
D303	B-2
D308	E-8
D309	E-8
D310	C-3
D311	C-2
D312	A-2
D313	A-8
D314	A-5
D315	A-8
D316	A-6
D317	A-6
D318	A-5
D319	B-5
D320	B-7
D321	C-5
D322	B-5
E101	G-9
F101	A-1
IC101	K-7 *
IC102	K-7
IC104	E-9
IC106	E-3
IC107	I-3
IC108	D-5
IC109	G-3
IC111	G-8
IC301	C-4
IC302	B-3
IC303	B-4
IC304	B-3
IC305	B-8
IC306	E-7
IC307	D-8
IC308	D-9
IC310	B-6
IC500	E-2
IC503	F-2
IC601	E-9
PS101	G-3
PS103	K-3
Q100	G-9
Q101	G-9
Q102	G-9
Q105	I-9
Q106	C-4
Q109	H-2
Q110	I-3
Q111	D-4
Q112	D-4
Q114	F-5
Q115	H-5
Q116	K-3
Q118	G-6
Q119	J-8
Q301	B-7
Q302	B-7
Q303	B-6
Q304	B-5
Q305	B-1
Q306	C-3
Q307	C-3
Q308	C-2
Q309	A-3
Q310	A-3
Q311	A-8
Q312	A-7
Q313	A-5
Q314	A-5
Q315	A-7
Q316	A-7
Q317	A-6
Q318	A-6
Q319	A-6
Q320	C-7
Q321	C-7
Q322	D-5
Q323	E-5
Q324	E-5
Q325	E-5
Q326	D-5
Q327	D-6
Q328	D-6
Q331	C-5
Q332	A-8
Q333	B-7
Q501	E-1
Q515	I-3
Q516	I-3
Q517	H-3
Q518	H-4
Q519	G-4
Q520	H-3
Q521	G-4
Q701	I-4
Q702	I-4
Q703	I-4
RB101	I-9
RB301	D-8
RV301	E-9
RV302	D-9
S101	I-9
TP106	J-7
TP107	E-9
TP111	J-8
TP301	B-9
TP304	E-9
TP305	C-9
TP307	C-9
X101	K-7
X301	D-7

* mark ; B SIDE mount

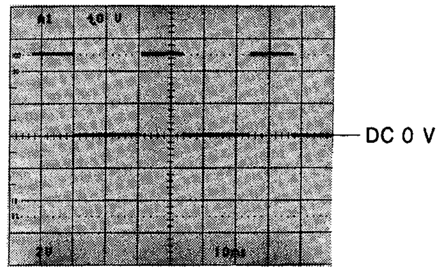
SS-59B/59C/59D (1/3), TR-68A, PTC-73

SS-59B/59C/59D (1/3); SERVO/SYSTEM CONTROL
TR-68A; TRACKING/SWITCHING POSITION VOLUME
PTC-73; CAM MODE DETECT

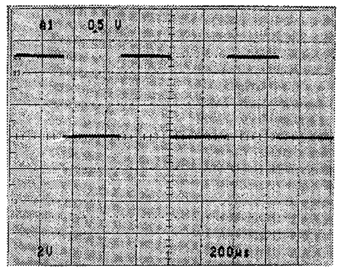
SS-59B/59C/59D (1-650-150-12, 13)

TP106	J-7
TP107	E-9
TP111	J-8
TP301	B-9
TP304	E-9
TP305	C-9
TP307	C-9

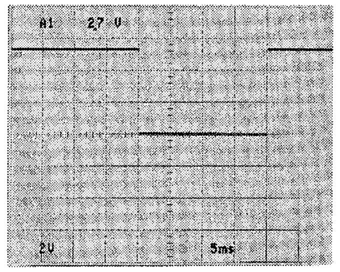
① TP101 REC/PB mode



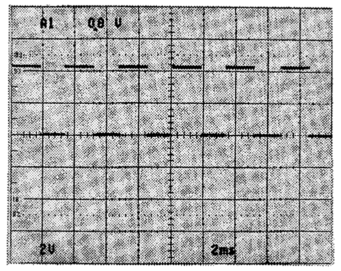
② TP103 REC mode



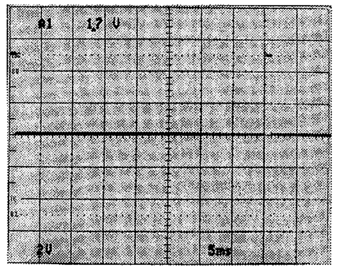
③ TP111 REC mode



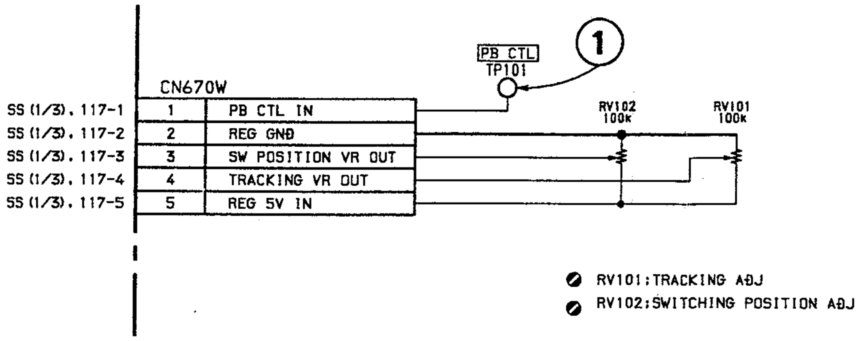
④ TP113 REC mode



⑤ TP104 REC mode

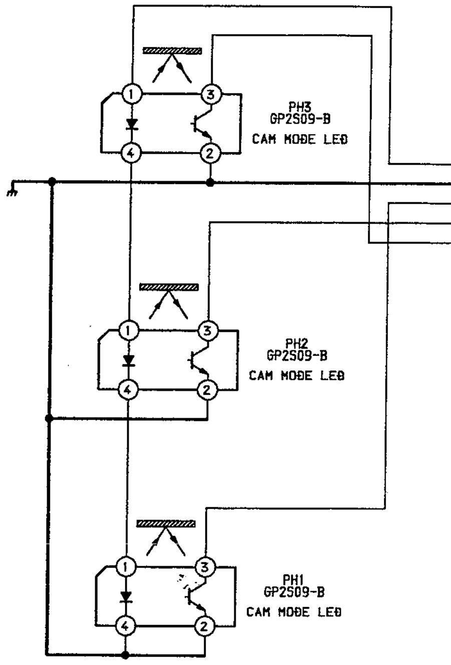


Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF


CN670W
SS (1/3), 117-1
SS (1/3), 117-2
SS (1/3), 117-3
SS (1/3), 117-4
SS (1/3), 117-5
1 PB CTL IN
2 REG GND
3 SW POSITION VR OUT
4 TRACKING VR OUT
5 REG 5V IN
PB CTL
TP101
①
RV102 100k
RV101 100k
RV101:TRACKING ADJ
RV102:SWITCHING POSITION ADJ

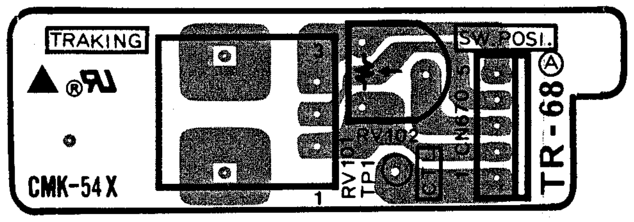
TR-68A

1-637-238-12 (1)
SVO-965P
SVO-915P


PH3 GP2S09-B CAM MODE LED
PH2 GP2S09-B CAM MODE LED
PH1 GP2S09-B CAM MODE LED
CN611 5P W-L
MODE LED VCC IN 1 SS (1/3), 104-1
GND 2 SS (1/3), 104-2
CAM MODE 3 OUT 3 SS (1/3), 104-3
CAM MODE 2 OUT 4 SS (1/3), 104-4
CAM MODE 1 OUT 5 SS (1/3), 104-5

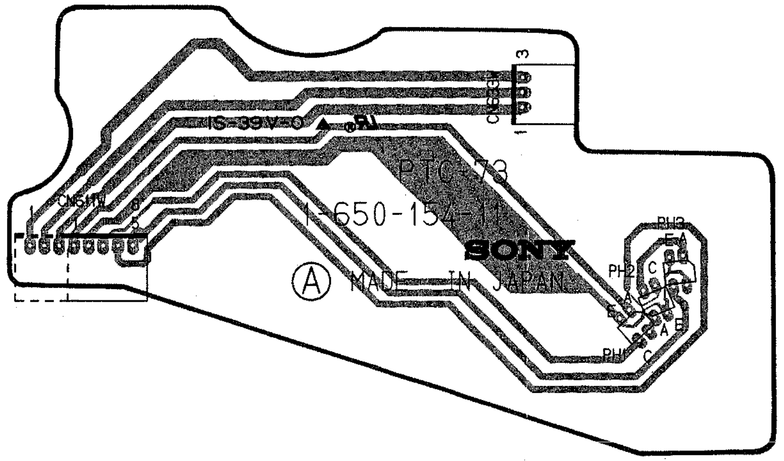
PTC-73

1-650-154-11 (1)
SVO-965P
SVO-915P

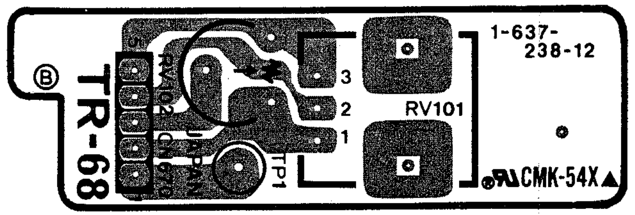

TRAKING
CMK-54X
SW POSI.
RV102
RV101
TP1
TR-68
Ⓐ
1

TR-68A – A SIDE –
1-637-238-12 (1)
SVO-965P
SVO-915P

A Side is the same as COMPONENT Side

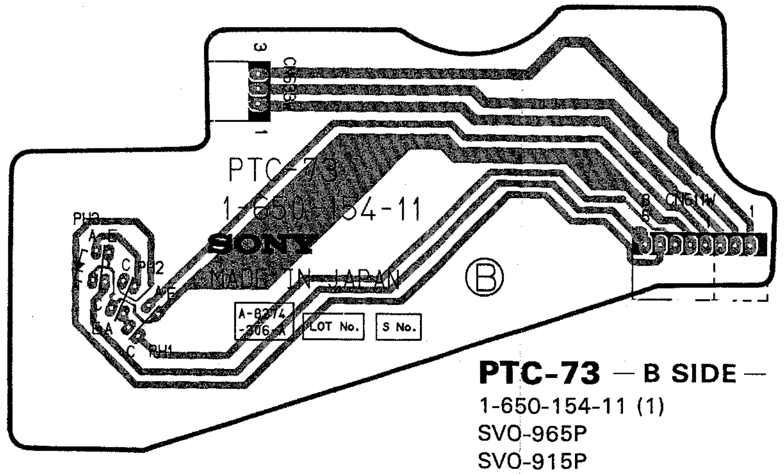

CN611
PTC-73
1-650-154-11
SONY
Ⓐ MADE IN JAPAN
PH3
PH2
PH1

PTC-73 – A SIDE –
1-650-154-11 (1)
SVO-965P
SVO-915P


Ⓑ
TR-68
1-637-238-12
RV101
3
2
1
TP1
CMK-54X

TR-68A – B SIDE –
1-637-238-12 (1)
SVO-965P
SVO-915P

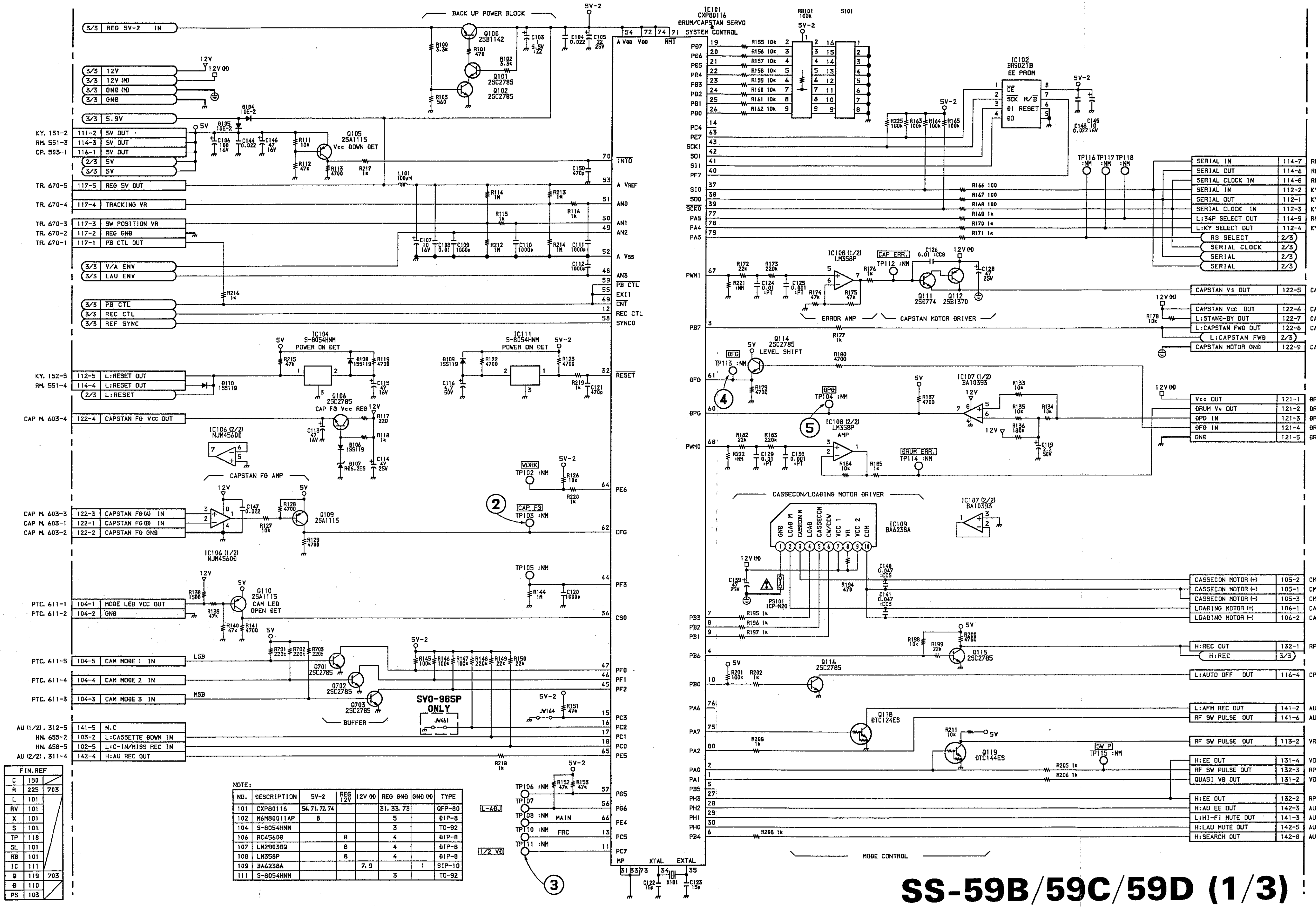
B Side is the same as SOLDER Side


CN611
PTC-73
1-650-154-11
SONY
MADE IN JAPAN
Ⓑ
PH3
PH2
PH1
LOT No.
S No.

PTC-73 – B SIDE –
1-650-154-11 (1)
SVO-965P
SVO-915P

FIN.REI	
C	150
R	225
L	101
RV	101
X	101
S	101
TP	118
SL	101
RB	101
IC	111
Q	119
D	110
PS	103

SS-59B/59C/59D (1/3), TR-68A, PTC-73


BACK UP POWER BLOCK
IC101 CXP80116 DRUM/CAPSTAN SERVO SYSTEM CONTROL
IC102 BR9021B EE PROM
IC104 S-8054HNM POWER ON DET
IC111 S-8054HNM POWER ON DET
IC106 (2/2) NJM4560D
CAPSTAN FG AMP
IC106 (1/2) NJM4560D
IC107 (1/2) BA10393
IC107 (2/2) BA10393
IC108 (1/2) LM358P
ERROR AMP
CAPSTAN MOTOR DRIVER
IC108 (2/2) LM358P AMP
IC109 BA6238A
CASSECON/LOADING MOTOR DRIVER
MODE CONTROL
BUFFER
SVO-965P ONLY
Q100 2SB1142
Q101 2SC2785
Q102 2SC2785
Q105 2SA1115 Vcc DOWN DET
Q106 2SC2785 CAP FG Vcc REG
Q109 2SA1115
Q110 2SA1115 CAM LED OPEN DET
Q111 2SD774
Q112 2SB1370
Q114 2SC2785 LEVEL SHIFT
Q115 2SC2785
Q116 2SC2785
Q118 DTC124ES
Q119 DTC144ES
Q701 2SC2785
Q702 2SC2785
Q703 2SC2785
PS101 ICP-N20
X101
3/3 REG 5V-2 IN
3/3 12V
3/3 12V (M)
3/3 GND (M)
3/3 GND
3/3 5.9V
KY. 151-2 111-2 5V OUT
RM. 551-3 114-3 5V OUT
CP. 503-1 116-1 5V OUT
2/3 5V
3/3 5V
TR. 670-5 117-5 REG 5V OUT
TR. 670-4 117-4 TRACKING VR
TR. 670-3 117-3 SW POSITION VR
TR. 670-2 117-2 REG GND
TR. 670-1 117-1 PB CTL OUT
3/3 V/A ENV
3/3 LAU ENV
3/3 PB CTL
3/3 REC CTL
3/3 REF SYNC
KY. 152-5 112-5 L:RESET OUT
RM. 551-4 114-4 L:RESET OUT
2/3 L:RESET
CAP M. 603-4 122-4 CAPSTAN FG VCC OUT
CAP M. 603-3 122-3 CAPSTAN FG (A) IN
CAP M. 603-1 122-1 CAPSTAN FG (B) IN
CAP M. 603-2 122-2 CAPSTAN FG GND
PTC. 611-1 104-1 MODE LED VCC OUT
PTC. 611-2 104-2 GND
PTC. 611-5 104-5 CAM MODE 1 IN
PTC. 611-4 104-4 CAM MODE 2 IN
PTC. 611-3 104-3 CAM MODE 3 IN
LSB
MSB
AU (1/2). 312-5 141-5 N.C
HN. 655-2 103-2 L:CASSETTE DOWN IN
HN. 658-5 102-5 L:C-IN/MISS REC IN
AU (2/2). 311-4 142-4 H:AU REC OUT
SERIAL IN 114-7 RM. 551-7
SERIAL OUT 114-6 RM. 551-6
SERIAL CLOCK IN 114-8 RM. 551-8
SERIAL IN 112-2 KY. 152-2
SERIAL OUT 112-1 KY. 152-1
SERIAL CLOCK IN 112-3 KY. 152-3
L:34P SELECT OUT 114-9 RM. 551-9
L:KY SELECT OUT 112-4 KY. 152-4
RS SELECT 2/3
SERIAL CLOCK 2/3
SERIAL 2/3
SERIAL 2/3
CAPSTAN Vs OUT 122-5 CAP M. 603-5
CAPSTAN Vcc OUT 122-6 CAP M. 603-6
L:STAND-BY OUT 122-7 CAP M. 603-7
L:CAPSTAN FWD OUT 122-8 CAP M. 603-8
L:CAPSTAN FWD 2/3
CAPSTAN MOTOR GND 122-9 CAP M. 603-9
Vcc OUT 121-1 DRUM M. 604-1
DRUM Vs OUT 121-2 DRUM M. 604-2
DPG IN 121-3 DRUM M. 604-3
DFG IN 121-4 DRUM M. 604-4
GND 121-5 DRUM M. 604-5
CASSECON MOTOR (+) 105-2 CM. 001-2
CASSECON MOTOR (-) 105-1 CM. 001-1
CASSECON MOTOR (-) 105-3 CM. 001-3
LOADING MOTOR (+) 106-1 CA. 620-1
LOADING MOTOR (-) 106-2 CA. 620-2
H:REC OUT 132-1 RP. 803-1
H:REC 3/3
L:AUTO OFF OUT 116-4 CP. 503-4
L:AFM REC OUT 141-2 AU (1/2). 312-2
RF SW PULSE OUT 141-6 AU (1/2). 312-6
RF SW PULSE OUT 113-2 VR. 155-2
H:EE OUT 131-4 VD. 203-4
RF SW PULSE OUT 132-3 RP. 803-3
QUASI VD OUT 131-2 VD. 203-2
H:EE OUT 132-2 RP. 803-2
H:AU EE OUT 142-3 AU (1/2). 311-3
L:HI-FI MUTE OUT 141-3 AU (1/2). 312-3
H:LAU MUTE OUT 142-5 AU (2/2). 311-5
H:SEARCH OUT 142-8 AU (2/2). 311-8
INTO
A VREF
AN0
AN1
AN2
A Vss
AN3
PB CTL
EXI1
CNT
REC CTL
SYNCO
RESET
PE6
CFG
PF3
CS0
PF0
PF1
PF2
PC3
PC2
PC1
PC0
PE5
PG5
PG6
PE4
PC5
PC7
MP
XTAL
EXTAL
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
PC4
PE7
SCK1
SO1
SI1
PF7
SI0
SO0
SCK0
PA5
PA4
PA3
PWM1
PB7
DFG
DPG
PWM0
PB3
PB2
PB1
PB6
PB0
PA6
PA7
PA2
PA0
PA1
PB5
PH3
PH2
PH1
PH0
PB4
TP102 WORK
TP103 CAP FG
TP105
TP106
TP107
TP108 MAIN
TP110 FRC
TP111
L-ADJ
1/2 VD
TP112 CAP ERR.
TP113 DFG
TP104 DPG
TP114 DRUM ERR.
TP115 SW P
TP116 TP117 TP118
RB101
S101
JW161
JW461
②
③
④
⑤
1
2
3
4
5
H
I
J
K
L
M
N
O
P

NOTE:

NO.	DESCRIPTION	5V-2	REG 12V	12V (M)	REG GND	GND (M)	TYPE
101	CXP80116	54, 71, 72, 74			31, 33, 73		QFP-80
102	M6M80011AP	8			5		DIP-8
104	S-8054HNM				3		TO-92
106	RC4560D		8		4		DIP-8
107	LM2903DQ		8		4		DIP-8
108	LM358P		8		4		DIP-8
109	BA6238A			7, 9		1	SIP-10
111	S-8054HNM				3		TO-92

FIN.REF		
C	150	
R	225	703
L	101	
RV	101	
X	101	
S	101	
TP	118	
SL	101	
RB	101	
IC	111	
Q	119	703
D	110	
PS	103	

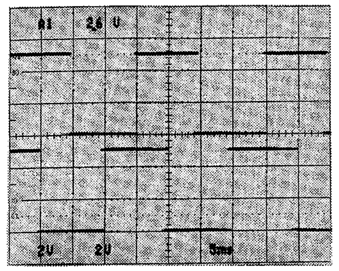
SS-59B/59C/59D (1/3)

1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)

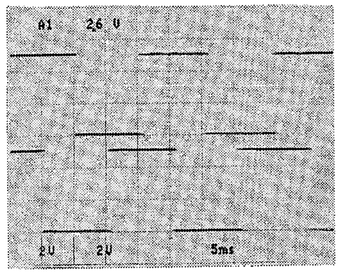
10-21

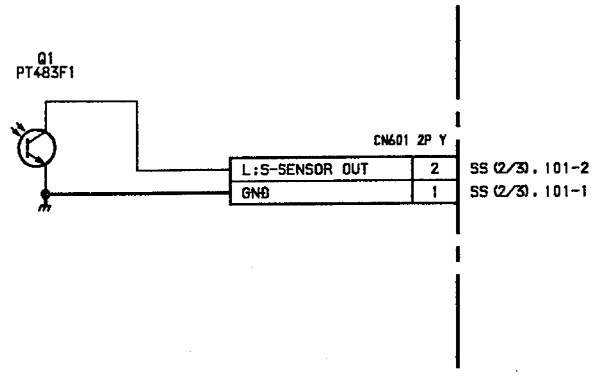
SS-59B/59C/59D (2/3); SERVO/SYSTEM CONTROL
DA-49; DA CONVERTER
SE-224; TAPE END SENSOR

① TP309 EE mode
② TP302 EE mode



③ TP310 EE mode
④ TP303 EE mode



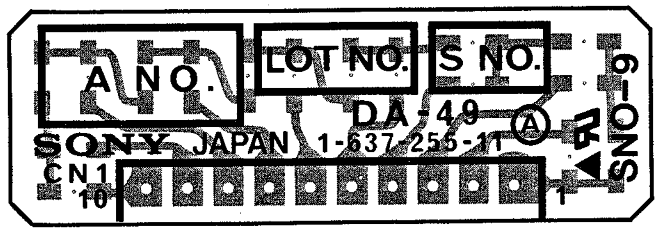

Q1
PT483F1
CN601 2P Y
L:S-SENSOR OUT
GND
2
1
SS (2/3), 101-2
SS (2/3), 101-1

SE-224
1-650-153-11 (1)
SVO-965P
SVO-915P

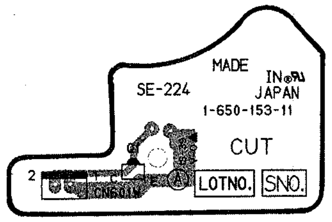
Measurement Condition
VIDEO IN: 75 % color bars
PB mode: KRV-35PF

SS-59B/59C/59D (1-650-150-12, 13)

TP106	J-7
TP107	E-9
TP111	J-8
TP301	B-9
TP304	E-9
TP305	C-9
TP307	C-9

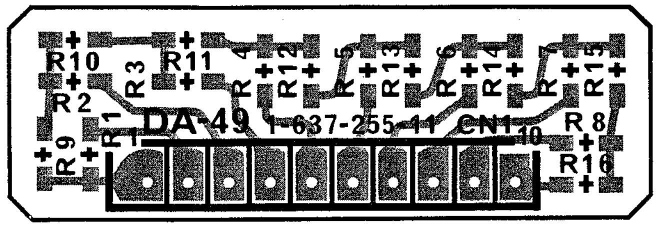

A NO.
LOT NO.
S NO.
DA-49
SONY JAPAN 1-637-255-11
CN1
10
1
A
SNO-6

DA-49 — A SIDE —
1-637-255-11 (1)
SVO-965P
SVO-915P

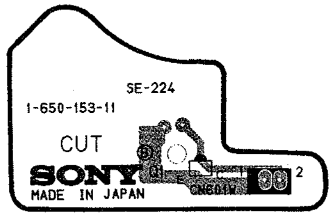

MADE IN JAPAN
SE-224
1-650-153-11
CUT
2
CN601
LOTNO.
SNO.

SE-224 — A SIDE —
1-650-153-11 (1)
SVO-965P
SVO-915P

A Side is the same as COMPONENT Side

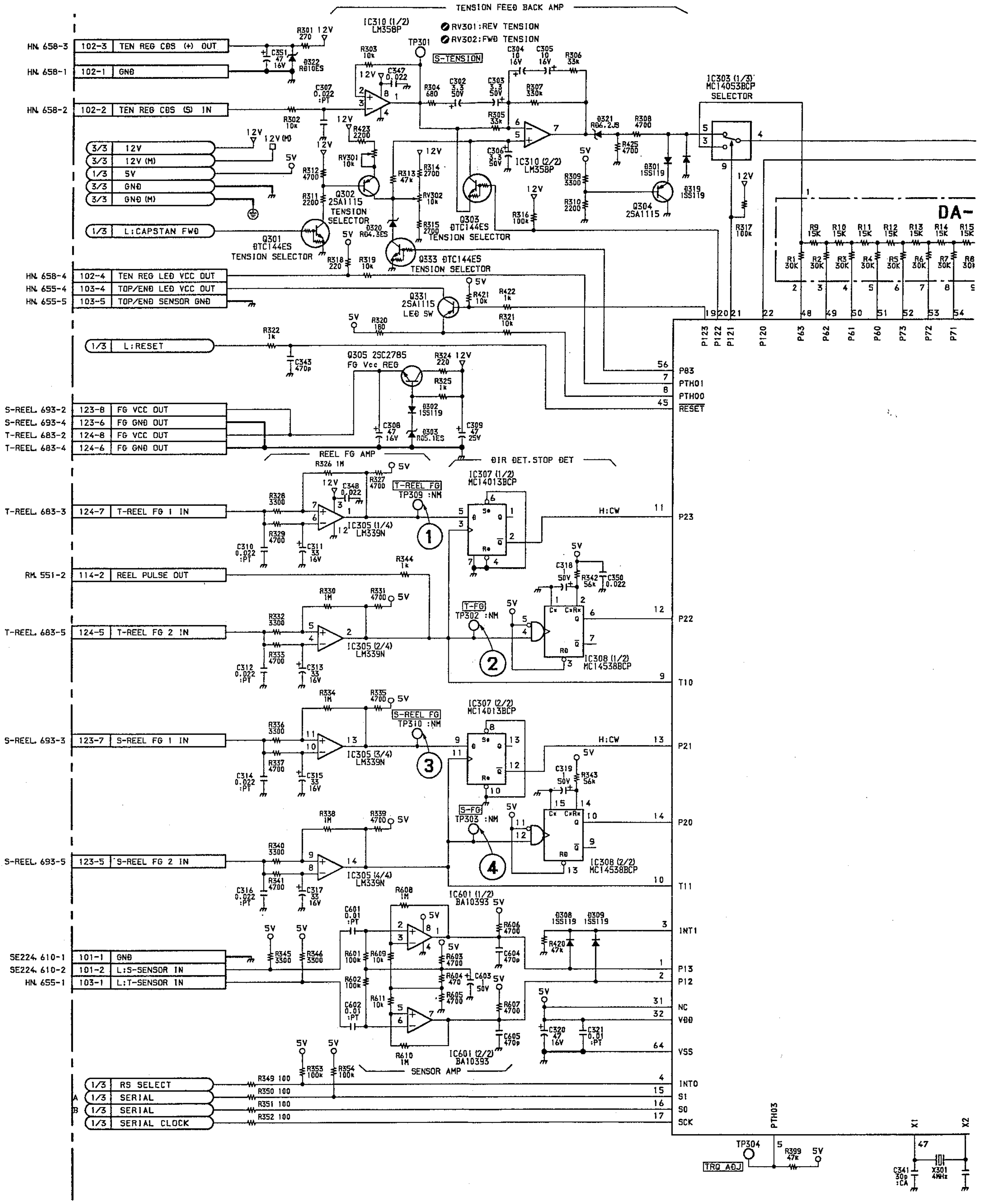

R10
R3
R11
R2
R12
R13
R14
R15
DA-49 1-637-255-11
CN1
R9
R1
R8
R16
10

DA-49 — B SIDE —
1-637-255-11 (1)
SVO-965P
SVO-915P

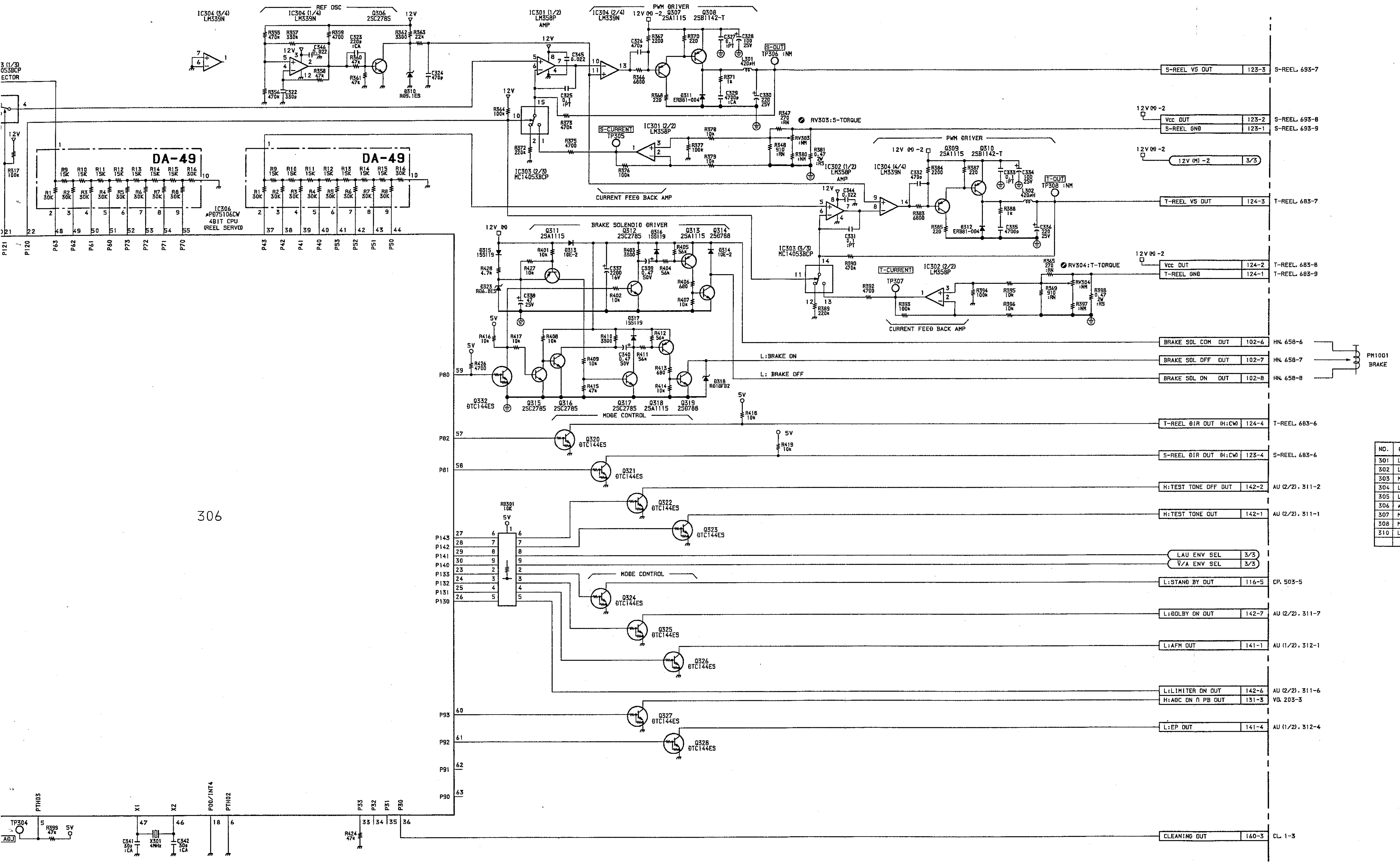

SE-224
1-650-153-11
CUT
SONY
MADE IN JAPAN
CN601
2

SE-224 — B SIDE —
1-650-153-11 (1)
SVO-965P
SVO-915P

B Side is the same as SOLDER Side


TENSION FEED BACK AMP
HN. 658-3
102-3 TEN REG CBS (+) OUT
HN. 658-1
102-1 GND
HN. 658-2
102-2 TEN REG CBS (S) IN
3/3 12V
3/3 12V (M)
3/3 5V
3/3 GND
3/3 GND (M)
1/3 L:CAPSTAN FWD
HN. 658-4
102-4 TEN REG LED VCC OUT
HN. 655-4
103-4 TOP/END LED VCC OUT
HN. 655-5
103-5 TOP/END SENSOR GND
1/3 L:RESET
IC310 (1/2) LM358P
IC310 (2/2) LM358P
RV301:REV TENSION
RV302:FWD TENSION
TP301
S-TENSION
Q302 2SA1115 TENSION SELECTOR
Q301 DTC144ES TENSION SELECTOR
Q303 DTC144ES TENSION SELECTOR
Q333 DTC144ES TENSION SELECTOR
Q304 2SA1115
Q331 2SA1115 LED SW
IC303 (1/3) MC14053BCP SELECTOR
Q305 2SC2785 FG Vcc REG
S-REEL 693-2
123-8 FG VCC OUT
S-REEL 693-4
123-6 FG GND OUT
T-REEL 683-2
124-8 FG VCC OUT
T-REEL 683-4
124-6 FG GND OUT
REEL FG AMP
DIR DET.STOP DET
T-REEL 683-3
124-7 T-REEL FG 1 IN
T-REEL FG
TP309 :NM
IC305 (1/4) LM339N
IC307 (1/2) MC14013BCP
H:CW
RM. 551-2
114-2 REEL PULSE OUT
T-REEL 683-5
124-5 T-REEL FG 2 IN
IC305 (2/4) LM339N
T-FG
TP302 :NM
IC308 (1/2) MC14538BCP
S-REEL 693-3
123-7 S-REEL FG 1 IN
S-REEL FG
TP310 :NM
IC305 (3/4) LM339N
IC307 (2/2) MC14013BCP
H:CW
S-FG
TP303 :NM
IC308 (2/2) MC14538BCP
S-REEL 693-5
123-5 S-REEL FG 2 IN
IC305 (4/4) LM339N
IC601 (1/2) BA10393
IC601 (2/2) BA10393
SENSOR AMP
SE224. 610-1
101-1 GND
SE224. 610-2
101-2 L:S-SENSOR IN
HN. 655-1
103-1 L:T-SENSOR IN
1/3 RS SELECT
1/3 SERIAL
1/3 SERIAL
1/3 SERIAL CLOCK
P83
PTH01
PTH00
RESET
P23
P22
T10
P21
P20
T11
INT1
P13
P12
NC
VDD
VSS
INT0
SI
SO
SCK
P123 P122 P121 P120 P63 P62 P61 P60 P73 P72 P71
PTH03
X1
X2
TP304
TRQ ADJ
X301 4MHz
DA-
R9 15K R10 15K R11 15K R12 15K R13 15K R14 15K R15 15K
R1 30K R2 30K R3 30K R4 30K R5 30K R6 30K R7 30K R8 30

SS-59B/59C/59D (2/3), DA-49, SE-224


REF OSC
IC304 (1/4) LM339N
Q306 2SC2785
IC301 (1/2) LM358P AMP
PWM DRIVER
IC304 (2/4) LM339N
Q307 2SA1115
Q308 2SB1142-T
S-OUT TP306 :NM
S-CURRENT TP305
IC301 (2/2) LM358P
RV303:S-TORQUE
IC303 (2/3) MC14053BCP
CURRENT FEED BACK AMP
DA-49
DA-49
IC306 μPD75106CW 4BIT CPU (REEL SERVO)
PWM DRIVER
Q309 2SA1115
Q310 2SB1142-T
IC304 (4/4) LM339N
IC302 (1/2) LM358P AMP
T-OUT TP308 :NM
IC303 (3/3) MC14053BCP
T-CURRENT TP307
IC302 (2/2) LM358P
RV304:T-TORQUE
CURRENT FEED BACK AMP
BRAKE SOLENOID DRIVER
Q311 2SA1115
Q312 2SC2785
Q313 2SA1115
Q314 2SD788
Q332 DTC144ES
Q315 2SC2785
Q316 2SC2785
Q317 2SC2785
Q318 2SA1115
Q319 2SD788
L:BRAKE ON
L: BRAKE OFF
MODE CONTROL
Q320 DTC144ES
Q321 DTC144ES
Q322 DTC144ES
Q323 DTC144ES
RB301 10k
MODE CONTROL
Q324 DTC144ES
Q325 DTC144ES
Q326 DTC144ES
Q327 DTC144ES
Q328 DTC144ES
X301 4MHz
TP304 ADJ
306
S-REEL VS OUT 123-3 S-REEL. 693-7
Vcc OUT 123-2 S-REEL. 693-8
S-REEL GND 123-1 S-REEL. 693-9
12V (M) -2 3/3
T-REEL VS OUT 124-3 T-REEL. 683-7
Vcc OUT 124-2 T-REEL. 683-8
T-REEL GND 124-1 T-REEL. 683-9
BRAKE SOL COM OUT 102-6 HN. 658-6
BRAKE SOL OFF OUT 102-7 HN. 658-7
BRAKE SOL ON OUT 102-8 HN. 658-8
PM1001 BRAKE
T-REEL DIR OUT (H:CW) 124-4 T-REEL. 683-6
S-REEL DIR OUT (H:CW) 123-4 S-REEL. 683-6
H:TEST TONE OFF OUT 142-2 AU (2/2). 311-2
H:TEST TONE OUT 142-1 AU (2/2). 311-1
LAU ENV SEL 3/3
V̄/A ENV SEL 3/3
L:STAND BY OUT 116-5 CP. 503-5
L:DOLBY ON OUT 142-7 AU (2/2). 311-7
L:AFM OUT 141-1 AU (1/2). 312-1
L:LIMITER ON OUT 142-6 AU (2/2). 311-6
H:AGC ON ∩ PB OUT 131-3 VQ. 203-3
L:EP OUT 141-4 AU (1/2). 312-4
CLEANING OUT 160-3 CL. 1-3

NO.	DESCRIPTION	+5V	+12V	GND
301	LM358P		8	4
302	LM358P		8	4
303	MC 14053BCP		16	6, 7, 8
304	LM339N		3	12
305	LM339N		3	12
306	μPD75106CW	32		64
307	MC14013BP	14		7
308	MC14538BCP	16		8
310	LM358P		8	4

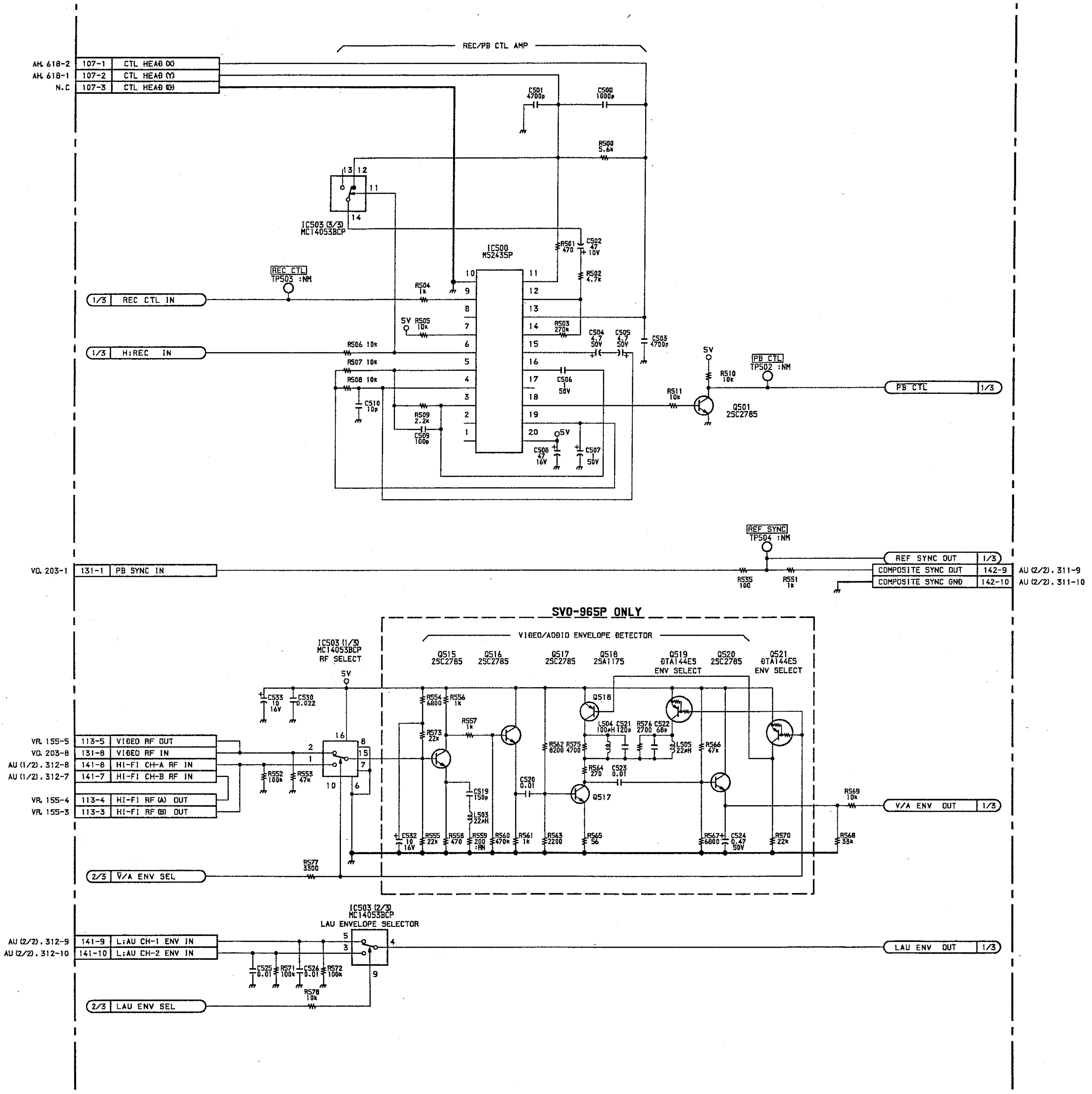
FIN.REF			
C	351	605	
R	399	428	611
RV	304		
L	302		
TP	310		
X	301		
RB	301		
IC	310		
Q	333		
D	323		

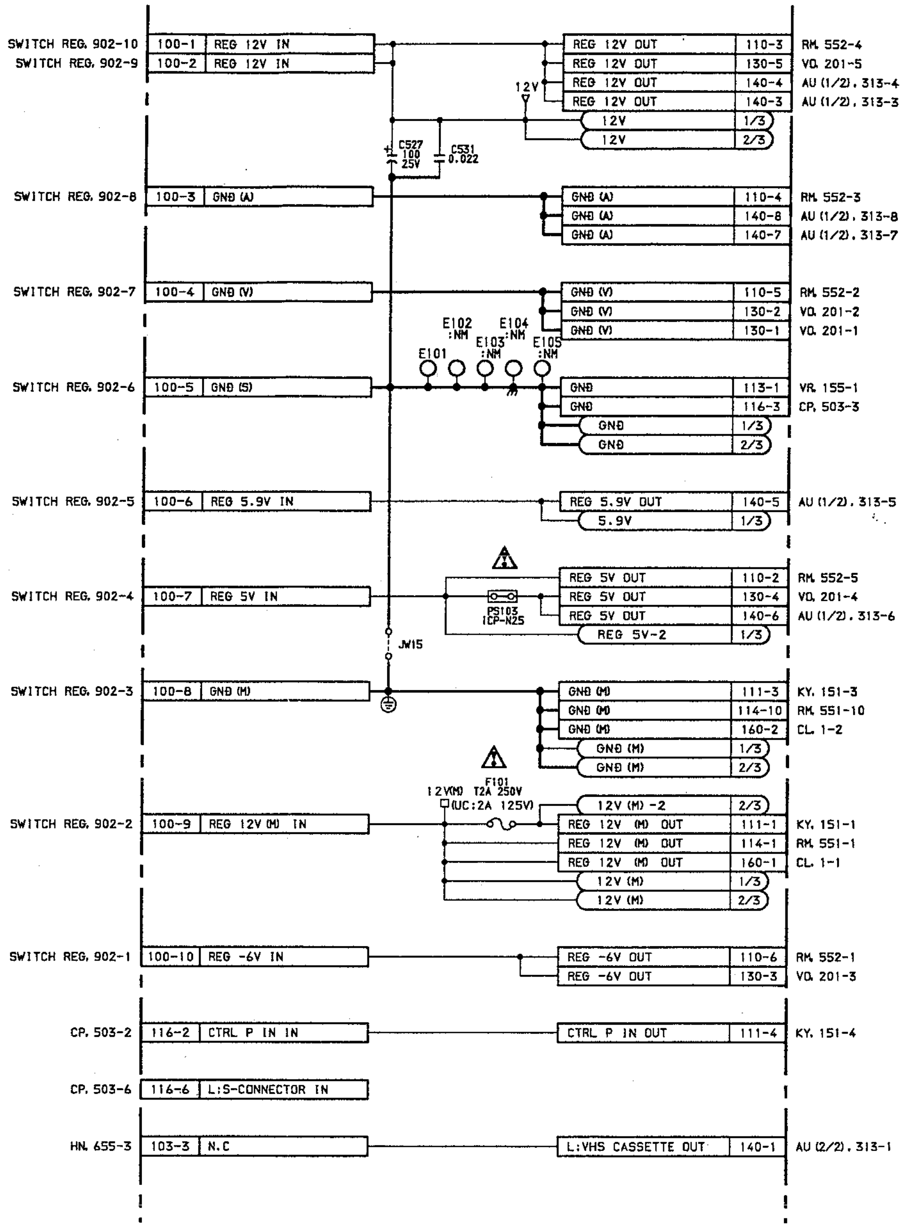
SS-59B/59C/59D (2/3)

1-650-150-12, 13 (1)
SVO-965P
SVO-915P
SVO-965P (UC)

H | I | J | K | L | M | N | O | P

SS-59B/59C/59D (3/3); SERVO/SYSTEM CONTROL


REC/PB CTL AMP
AH. 618-2
AH. 618-1
N.C
107-1 CTL HEAD (X)
107-2 CTL HEAD (Y)
107-3 CTL HEAD (G)
C501 4700p
C500 1000p
R500 5.6k
IC503 (3/3) MC14053BCP
IC500 M52435P
R501 470
C502 47 10V
R502 4.7k
REC CTL
TP503 :NM
1/3 REC CTL IN
R504 1k
5V R505 10k
R503 270k
C504 4.7 50V
C505 4.7 50V
C503 4700p
1/3 H:REC IN
R506 10k
R507 10k
R508 10k
C510 10p
R509 2.2k
C509 100p
C506 1 50V
C508 47 16V
C507 1 50V
5V
R510 10k
PB CTL
TP502 :NM
R511 10k
Q501 2SC2785
PB CTL 1/3
REF SYNC
TP504 :NM
VO. 203-1
131-1 PB SYNC IN
R535 100
R551 1k
REF SYNC OUT 1/3
COMPOSITE SYNC OUT 142-9 AU (2/2). 311-9
COMPOSITE SYNC GND 142-10 AU (2/2). 311-10
SVO-965P ONLY
VIDEO/AUDIO ENVELOPE DETECTOR
IC503 (1/3) MC14053BCP RF SELECT
Q515 2SC2785
Q516 2SC2785
Q517 2SC2785
Q518 2SA1175
Q519 DTA144ES ENV SELECT
Q520 2SC2785
Q521 DTA144ES ENV SELECT
C533 10 16V
C530 0.022
R554 6800
R556 1k
R573 22k
R557 1k
L504 100μH
C521 120p
R576 2700
C522 68p
L505 22μH
R562 8200
R575 4700
R566 47k
R564 270
C523 0.01
C520 0.01
C519 150p
L503 22μH
VR. 155-5 113-5 VIDEO RF OUT
VO. 203-8 131-8 VIDEO RF IN
AU (1/2). 312-8 141-8 HI-FI CH-A RF IN
AU (1/2). 312-7 141-7 HI-FI CH-B RF IN
VR. 155-4 113-4 HI-FI RF (A) OUT
VR. 155-3 113-3 HI-FI RF (B) OUT
R552 100k
R553 47k
C532 10 16V
R555 22k
R558 470
R559 200 :RN
R560 470k
R561 1k
R563 2200
R565 56
R567 6800
C524 0.47 50V
R570 22k
R568 33k
R569 10k
V/A ENV OUT 1/3
2/3 V̄/A ENV SEL
R577 3300
IC503 (2/3) MC14053BCP LAU ENVELOPE SELECTOR
AU (2/2). 312-9 141-9 L;AU CH-1 ENV IN
AU (2/2). 312-10 141-10 L;AU CH-2 ENV IN
C525 0.01
R571 100k
C526 0.01
R572 100k
R578 10k
LAU ENV OUT 1/3
2/3 LAU ENV SEL

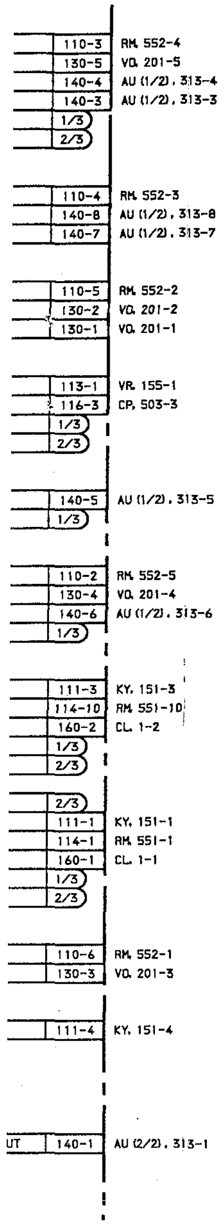

SWITCH REG. 902-10 100-1 REG 12V IN
SWITCH REG. 902-9 100-2 REG 12V IN
REG 12V OUT 110-3 RM. 552-4
REG 12V OUT 130-5 VO. 201-5
REG 12V OUT 140-4 AU (1/2). 313-4
REG 12V OUT 140-3 AU (1/2). 313-3
12V
12V 1/3
12V 2/3
C527 100 25V
C531 0.022
SWITCH REG. 902-8 100-3 GND (A)
GND (A) 110-4 RM. 552-3
GND (A) 140-8 AU (1/2). 313-8
GND (A) 140-7 AU (1/2). 313-7
SWITCH REG. 902-7 100-4 GND (V)
GND (V) 110-5 RM. 552-2
GND (V) 130-2 VO. 201-2
GND (V) 130-1 VO. 201-1
E101
E102 :NM
E103 :NM
E104 :NM
E105 :NM
SWITCH REG. 902-6 100-5 GND (S)
GND 113-1 VR. 155-1
GND 116-3 CP. 503-3
GND 1/3
GND 2/3
SWITCH REG. 902-5 100-6 REG 5.9V IN
REG 5.9V OUT 140-5 AU (1/2). 313-5
5.9V 1/3
SWITCH REG. 902-4 100-7 REG 5V IN
PS103 ICP-N25
REG 5V OUT 110-2 RM. 552-5
REG 5V OUT 130-4 VO. 201-4
REG 5V OUT 140-6 AU (1/2). 313-6
REG 5V-2 1/3
JW15
SWITCH REG. 902-3 100-8 GND (M)
GND (M) 111-3 KY. 151-3
GND (M) 114-10 RM. 551-10
GND (M) 160-2 CL. 1-2
GND (M) 1/3
GND (M) 2/3
F101
12V(M) T2A 250V
(UC:2A 125V)
SWITCH REG. 902-2 100-9 REG 12V (M) IN
12V (M) -2 2/3
REG 12V (M) OUT 111-1 KY. 151-1
REG 12V (M) OUT 114-1 RM. 551-1
REG 12V (M) OUT 160-1 CL. 1-1
12V (M) 1/3
12V (M) 2/3
SWITCH REG. 902-1 100-10 REG -6V IN
REG -6V OUT 110-6 RM. 552-1
REG -6V OUT 130-3 VO. 201-3
CP. 503-2 116-2 CTRL P IN IN
CTRL P IN OUT 111-4 KY. 151-4
CP. 503-6 116-6 L:S-CONNECTOR IN
HN. 655-3 103-3 N.C
L:VHS CASSETTE OUT 140-1 AU (2/2). 313-1

NO.	DESCRIPTION	+5V	GND
500	M52435P	20	10
503	MC14053BCP	16	6, 7, 8

FIN.REF	
C	533
R	578
L	505
TP	504
IC	503
Q	521

SS-59B/59C/59D (3/3)

1-650-150-12, 13 (1)
SVO-965P (EK)
SVO-915P (EK)
SVO-965P (UC)


110-3 RM. 552-4
130-5 VO. 201-5
140-4 AU (1/2), 313-4
140-3 AU (1/2), 313-3
1/3
2/3
110-4 RM. 552-3
140-8 AU (1/2), 313-8
140-7 AU (1/2), 313-7
110-5 RM. 552-2
130-2 VO. 201-2
130-1 VO. 201-1
113-1 VR. 155-1
116-3 CP. 503-3
1/3
2/3
140-5 AU (1/2), 313-5
1/3
110-2 RM. 552-5
130-4 VO. 201-4
140-6 AU (1/2), 313-6
1/3
111-3 KY. 151-3
114-10 RM. 551-10
160-2 CL. 1-2
1/3
2/3
2/3
111-1 KY. 151-1
114-1 RM. 551-1
160-1 CL. 1-1
1/3
2/3
110-6 RM. 552-1
130-3 VO. 201-3
111-4 KY. 151-4
UT 140-1 AU (2/2), 313-1

FIN.REF	
C	533
R	578
L	505
TP	504
IC	503
Q	521

(3/3)

1

2

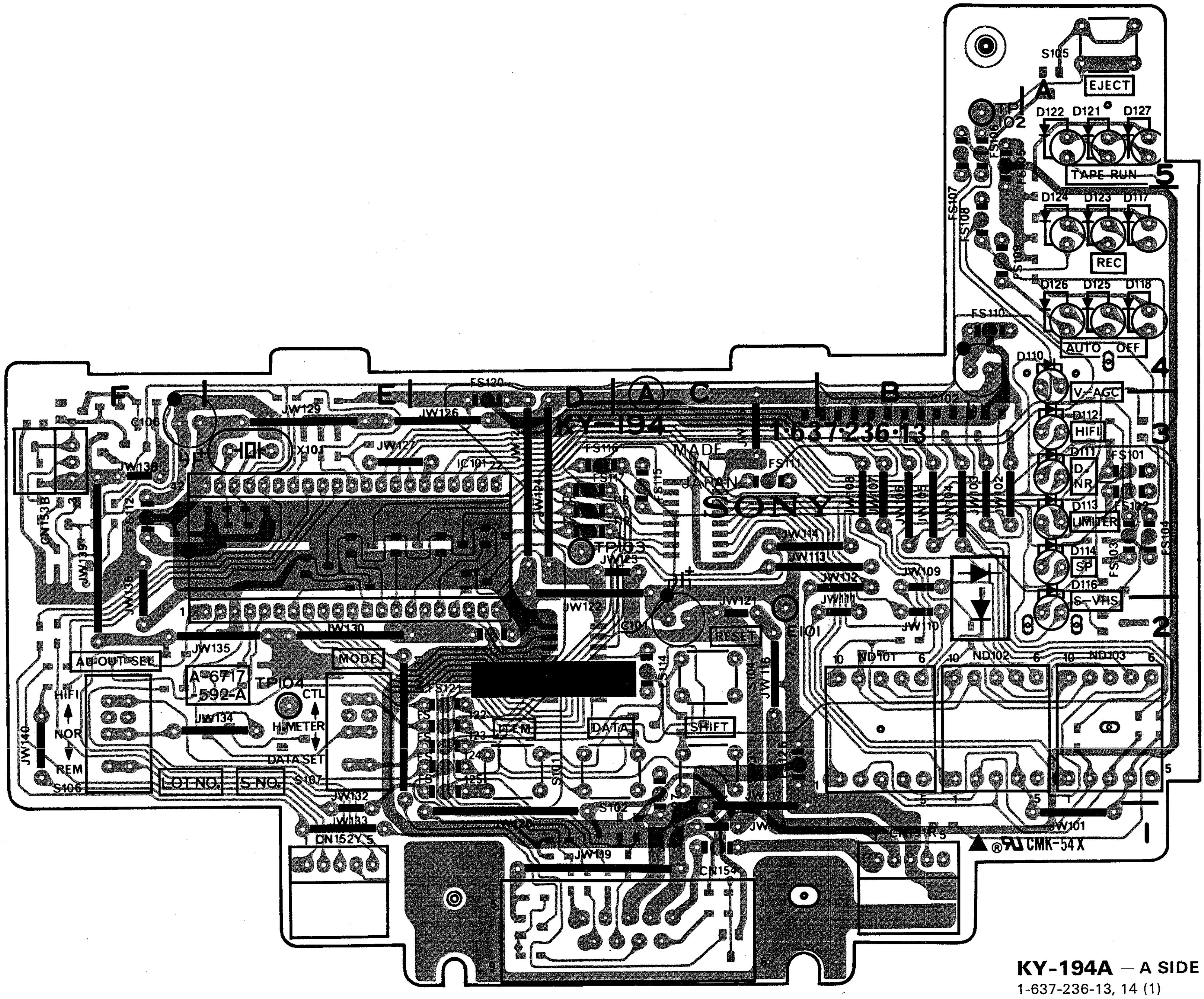
3

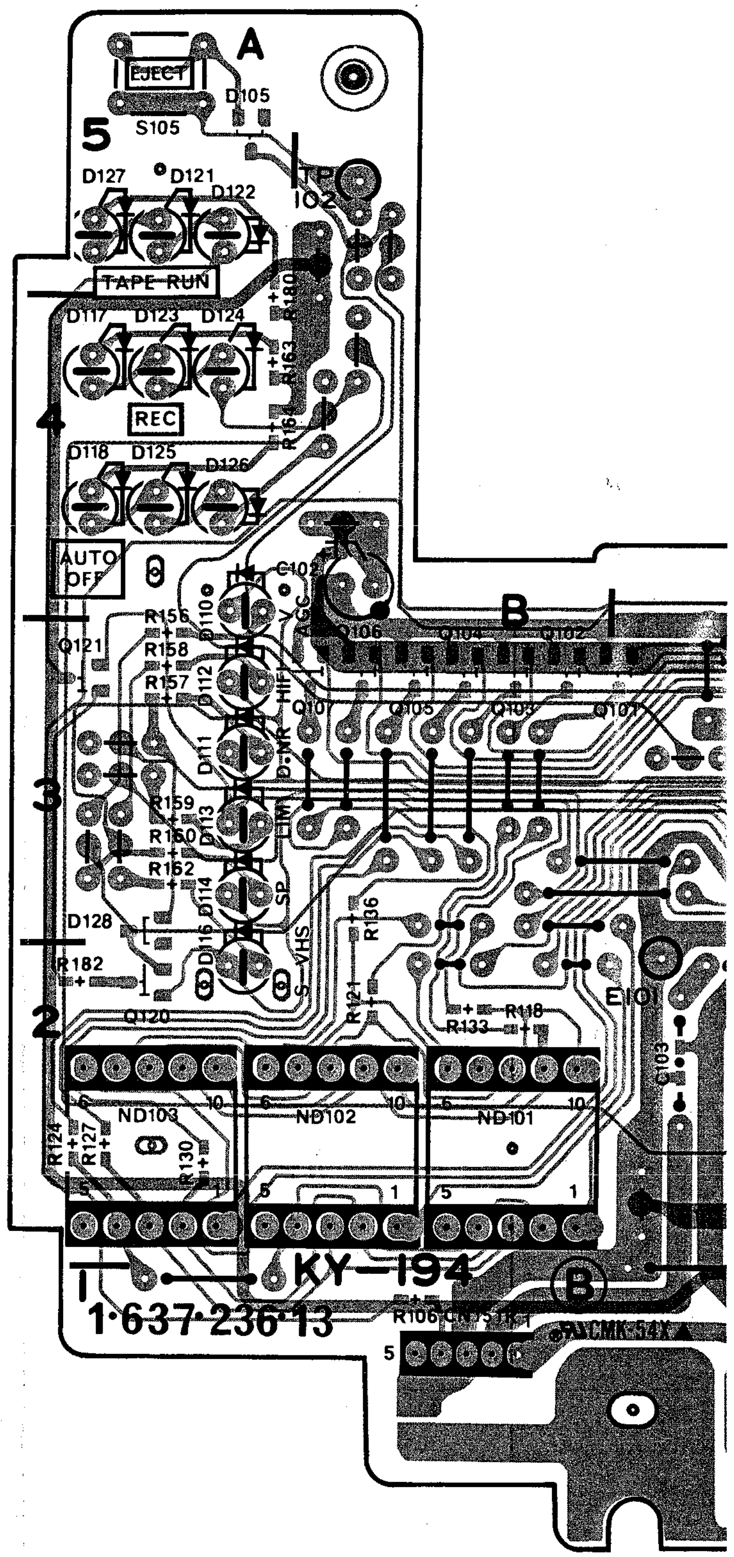
4

5

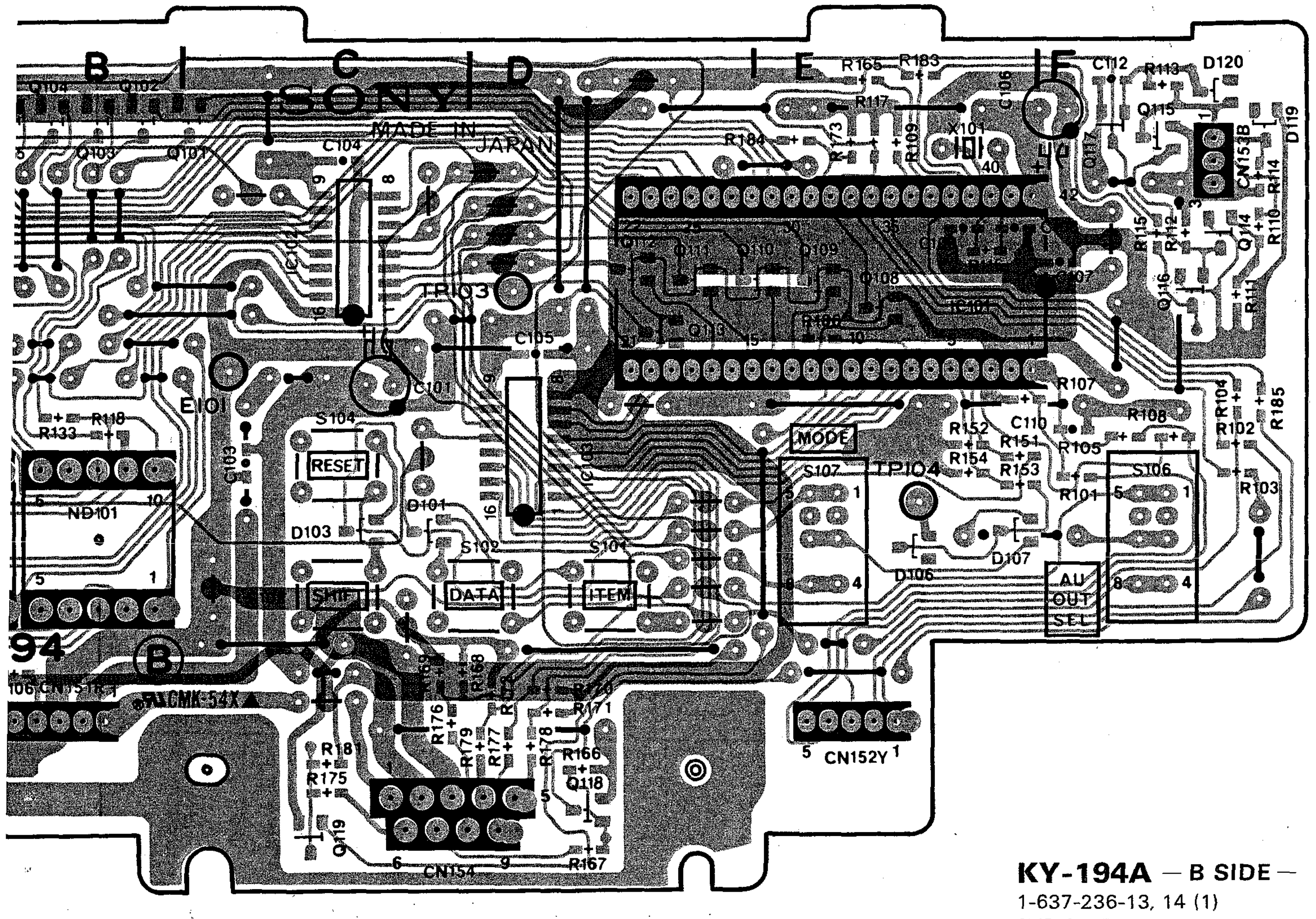
I | I | J | K | L | M | N | O | P

KY-194A ; FUNCTION KEY BOARD


EJECT
S105
TAPE RUN
REC
AUTO OFF
V-AGC
HIFI
D. NR
LIMITER
SP
S-VHS
D122 D121 D127
D124 D123 D117
D126 D125 D118
D110 D112 D111 D113 D114 D116
TP102
TP103
TP104
IC101
X101
C101
C102
C106
KY-194
1-637-236-13
MADE IN JAPAN
SONY
ND101 ND102 ND103
AU OUT SEL
MODE
ITEM
DATA
SHIFT
RESET
LOT NO.
S NO.
HIFI NOR REM
CTL H.METER DATA SET
A-6717-592-A
CN152
CN153
CN154
S106 S107
FS101 FS110 FS111 FS120
E101
CMK-54X
A B C D E F
1 2 3 4 5


A
EJECT
S105
D105
5
D127 D121 D122
TP102
TAPE RUN
D117 D123 D124
REC
D118 D125 D126
AUTO OFF
C102
Q106
B
Q121
R156 R158 R157
R159 R160 R162
D128
R182
Q120
ND103 ND102 ND101
R124 R127 R130
R133 R118
E101
KY-194
1·637·236·13
B
R106
CN151
CMK-54V
1 2 3 4 5

KY-194A — A SIDE —
1-637-236-13, 14 (1)
SVO-965P
SVO-915P


B
C
D
E
F
SONY
MADE IN JAPAN
Q104
Q102
Q103
Q101
C104
C112
R113
D120
D119
R165
R183
R117
C106
Q115
R184
R173
R109
X101
40
42
CN153B
R114
R110
R115
R112
Q114
Q116
R111
Q112
Q111
Q110
Q109
Q108
Q113
Q107
IC101
IC102
TP103
C105
C101
E101
R118
R133
S104
RESET
Q120
D103
D101
S102
S101
ND101
SHIFT
DATA
ITEM
MODE
S107
TP104
R107
R108
R104
R185
R102
R103
C110
R152
R151
R154
R153
R105
R101
S106
D107
D106
AU OUT SEL
94
CN151
CMK-54X
R176
R179
R177
R178
R166
R171
Q118
R181
R175
Q119
CN154
R167
CN152Y
5
1
6
9
4
8
16

KY-194A — B SIDE —

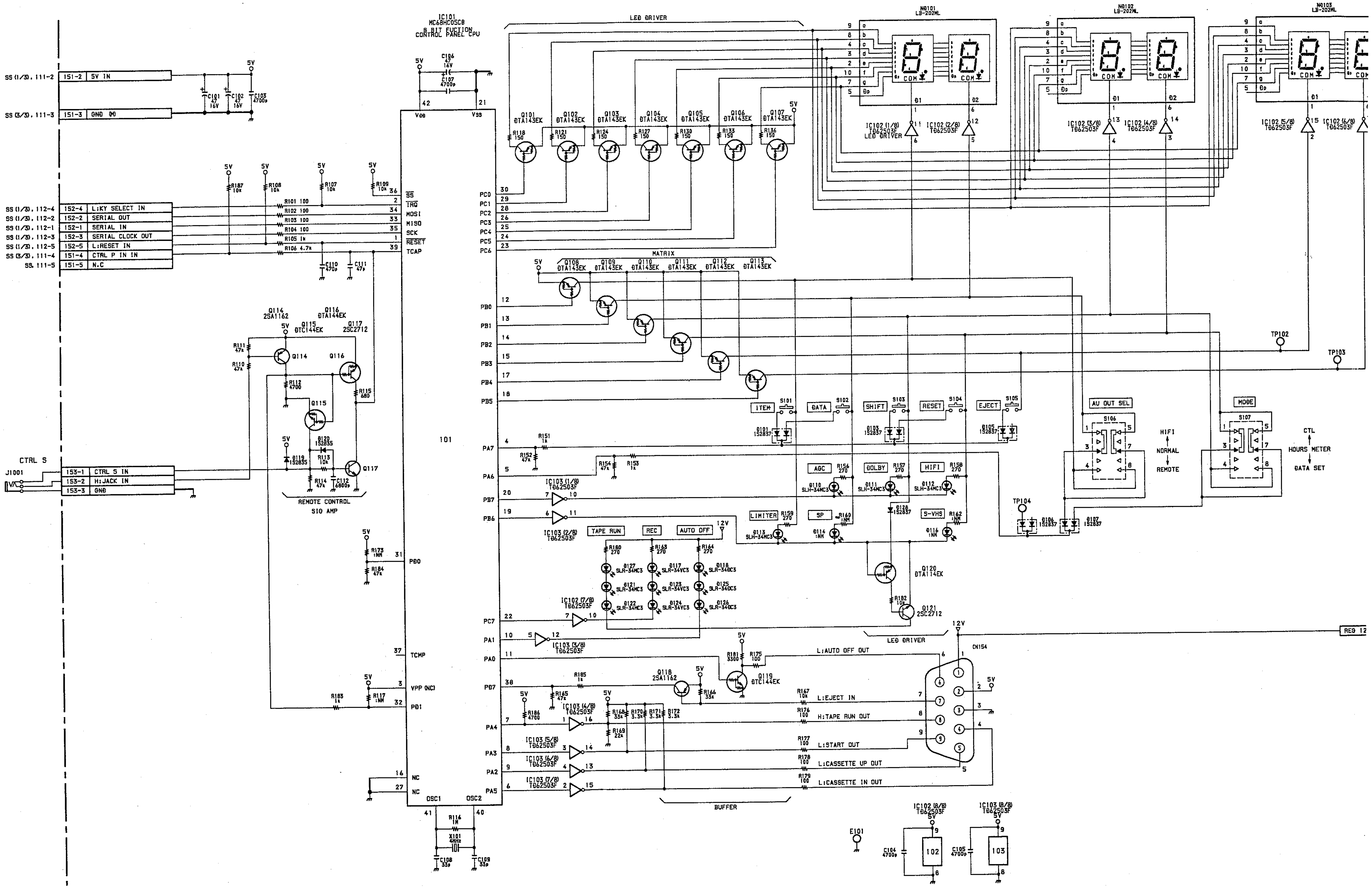
1-637-236-13, 14 (1)
SVO-965P
SVO-915P

KY-194A (1-637-236-13, 14)

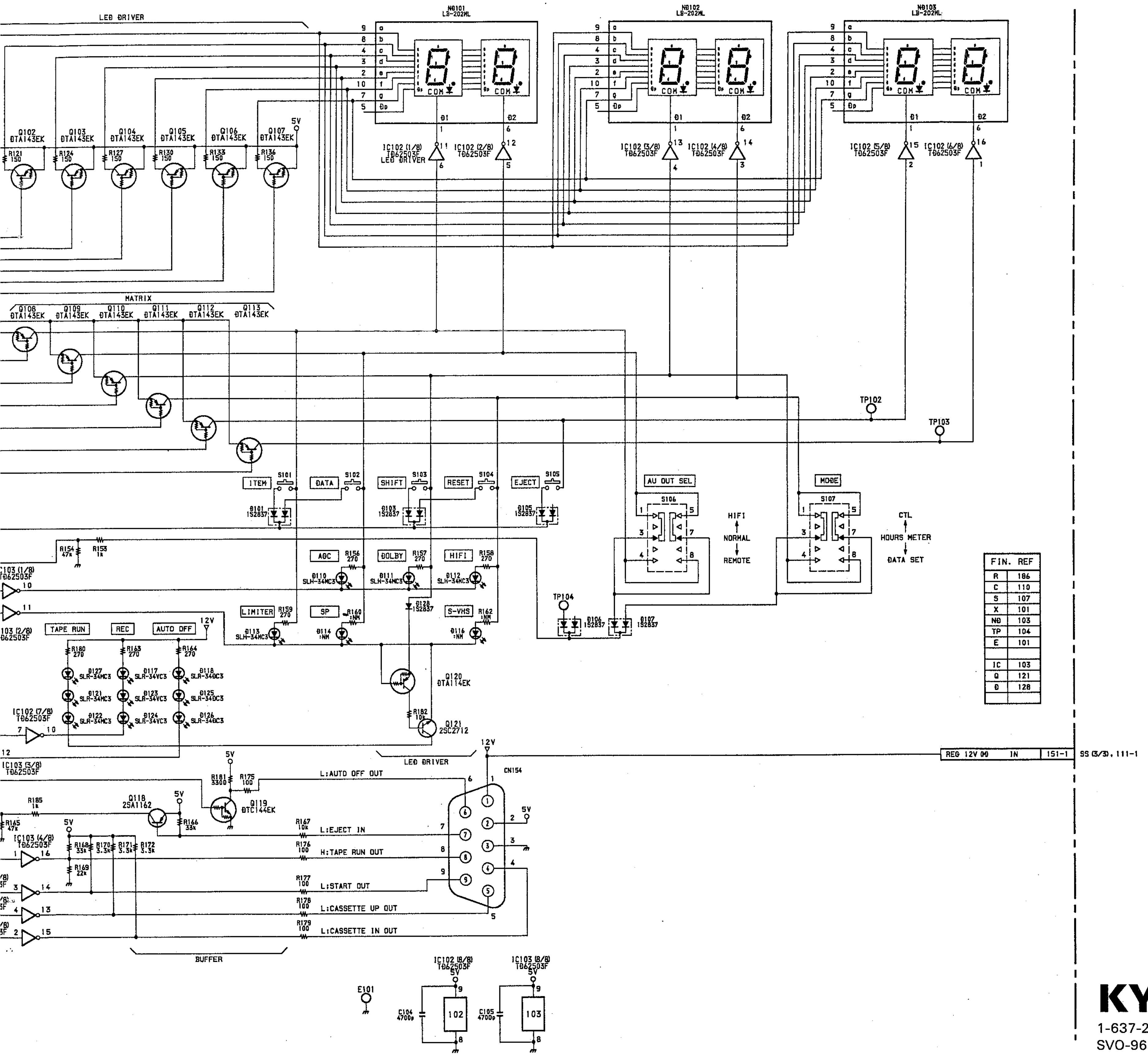
CN151	B-1	TP104	E-2
CN152	E-1		
CN153	F-3	X101	E-3
CN154	C-1		
D101	C-2 *		
D103	C-2 *		
D105	A-5 *		
D106	E-2 *		
D107	E-2 *		
D110	A-4		
D111	A-3		
D112	A-3		
D113	A-3		
D117	A-4		
D118	A-4		
D119	F-3 *		
D120	F-4 *		
D121	A-5		
D122	A-5		
D123	A-4		
D124	A-4		
D125	A-4		
D126	A-4		
D127	A-5		
D128	A-3 *		
E101	C-2		
IC101	D-3		
IC102	C-3 *		
IC103	D-2 *		
ND101	B-2		
ND102	B-2		
ND103	A-2		
Q101	B-3 *		
Q102	B-3 *		
Q103	B-3 *		
Q104	B-3 *		
Q105	B-3 *		
Q106	B-3 *		
Q107	B-3 *		
Q108	E-3 *		
Q109	E-3 *		
Q110	D-3 *		
Q111	D-3 *		
Q112	D-3 *		
Q113	D-3 *		
Q114	F-3 *		
Q115	F-3 *		
Q116	F-3 *		
Q117	F-3 *		
Q118	D-1 *		
Q119	C-1 *		
Q120	A-2 *		
Q121	A-3 *		
S101	D-2		
S102	D-2		
S103	C-2		
S104	C-2		
S105	A-5		
S106	F-2		
S107	E-2		
TP102	B-5		
TP103	D-3		

* mark ; B SIDE mount

KY-194A ; FUNCTION KEY BOARD


IC101
MC68HC05C8
8 BIT FUCTION CONTROL PANEL CPU
LED DRIVER
N0101 LB-202ML
N0102 LB-202ML
N0103 LB-202ML
SS (1/3), 111-2
SS (3/3), 111-3
151-2 5V IN
151-3 GND (M)
SS (1/3), 112-4
SS (1/3), 112-2
SS (1/3), 112-1
SS (1/3), 112-3
SS (1/3), 112-5
SS (3/3), 111-4
SS 111-5
152-4 L:KY SELECT IN
152-2 SERIAL OUT
152-1 SERIAL IN
152-3 SERIAL CLOCK OUT
152-5 L:RESET IN
151-4 CTRL P IN IN
151-5 N.C
CTRL S
J1001
153-1 CTRL S IN
153-2 H:JACK IN
153-3 GND
REMOTE CONTROL
SIG AMP
Q114 2SA1162
Q115 DTC144EK
Q116 DTA144EK
Q117 2SC2712
Q101 DTA143EK
Q102 DTA143EK
Q103 DTA143EK
Q104 DTA143EK
Q105 DTA143EK
Q106 DTA143EK
Q107 DTA143EK
MATRIX
Q108 DTA143EK
Q109 DTA143EK
Q110 DTA143EK
Q111 DTA143EK
Q112 DTA143EK
Q113 DTA143EK
IC102 (1/8) TD62503F LED DRIVER
IC102 (2/8) TD62503F
IC102 (3/8) TD62503F
IC102 (4/8) TD62503F
IC102 (5/8) TD62503F
IC102 (6/8) TD62503F
ITEM S101
DATA S102
SHIFT S103
RESET S104
EJECT S105
AU OUT SEL S106
MODE S107
HIFI
NORMAL
REMOTE
CTL
HOURS METER
DATA SET
TP102
TP103
TP104
AGC
DOLBY
HIFI
LIMITER
SP
S-VHS
TAPE RUN
REC
AUTO OFF
Q120 DTA114EK
Q121 2SC2712
LED DRIVER
Q118 2SA1162
Q119 DTC144EK
IC103 (1/8) TD62503F
IC103 (2/8) TD62503F
IC103 (3/8) TD62503F
IC103 (4/8) TD62503F
IC103 (5/8) TD62503F
IC103 (6/8) TD62503F
IC103 (7/8) TD62503F
IC102 (7/8) TD62503F
CN154
L:AUTO OFF OUT
L:EJECT IN
H:TAPE RUN OUT
L:START OUT
L:CASSETTE UP OUT
L:CASSETTE IN OUT
BUFFER
REG 12
12V
5V
X101 4MHz
IC102 (8/8) TD62503F
IC103 (8/8) TD62503F
E101
VDD
VSS
SS
IRQ
MOSI
MISO
SCK
RESET
TCAP
TCMP
VPP (NC)
PD1
PD0
NC
OSC1
OSC2
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PD7

A | B | C | D | E | F | G | H |

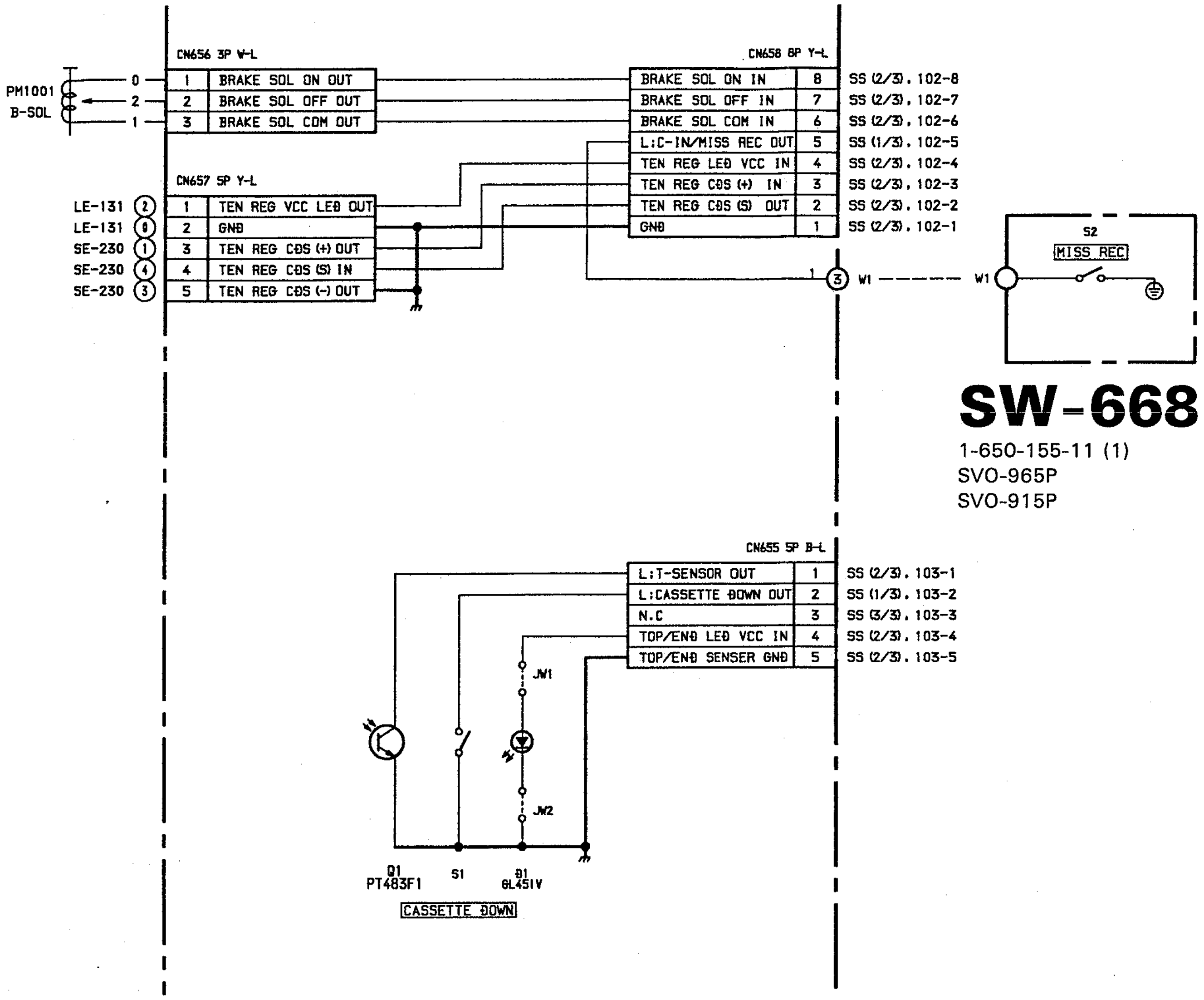

LED DRIVER
ND101
LB-202ML
ND102
LB-202ML
ND103
LB-202ML
a
b
c
d
e
f
g
Dp
COM
D1
D2
Q102
DTA143EK
Q103
DTA143EK
Q104
DTA143EK
Q105
DTA143EK
Q106
DTA143EK
Q107
DTA143EK
R121 150
R124 150
R127 150
R130 150
R133 150
R136 150
5V
IC102 (1/8)
TD62503F
LED DRIVER
IC102 (2/8)
TD62503F
IC102 (3/8)
TD62503F
IC102 (4/8)
TD62503F
IC102 (5/8)
TD62503F
IC102 (6/8)
TD62503F
MATRIX
Q108
DTA143EK
Q109
DTA143EK
Q110
DTA143EK
Q111
DTA143EK
Q112
DTA143EK
Q113
DTA143EK
TP102
TP103
ITEM
S101
DATA
S102
SHIFT
S103
RESET
S104
EJECT
S105
D101
1S2837
D103
1S2837
D105
1S2837
AU OUT SEL
S106
HIFI
NORMAL
REMOTE
MODE
S107
CTL
HOURS METER
DATA SET
R154 47k
R153 1k
IC103 (1/8)
TD62503F
IC103 (2/8)
TD62503F
AGC
R156 270
DOLBY
R157 270
HIFI
R158 270
D110 SLH-34MC3
D111 SLH-34MC3
D112 SLH-34MC3
TP104
D106 1S2837
D107 1S2837
LIMITER
R159 270
SP
R160 :NM
S-VHS
R162 :NM
D128 1S2837
D113 SLH-34MC3
D114 :NM
D116 :NM
TAPE RUN
REC
AUTO OFF
12V
R180 270
R163 270
R164 270
D127 SLR-34MC3
D117 SLR-34VC3
D118 SLR-34DC3
D121 SLR-34MC3
D123 SLR-34VC3
D125 SLR-34DC3
D122 SLR-34MC3
D124 SLR-34VC3
D126 SLR-34DC3
Q120
DTA114EK
R182 10k
Q121
2SC2712
IC102 (7/8)
TD62503F
LED DRIVER
12V
REG 12V 00
IN
151-1
SS (3/3), 111-1
IC103 (3/8)
TD62503F
CN154
5V
R181 3300
R175 100
L:AUTO OFF OUT
Q118
2SA1162
Q119
DTC144EK
R185 1k
R165 47k
R166 33k
IC103 (4/8)
TD62503F
R167 10k
L:EJECT IN
R168 33k
R170 3.3k
R171 3.3k
R172 3.3k
R169 22k
R176 100
H:TAPE RUN OUT
R177 100
L:START OUT
R178 100
L:CASSETTE UP OUT
R179 100
L:CASSETTE IN OUT
BUFFER
E101
IC102 (8/8)
TD62503F
IC103 (8/8)
TD62503F
C104 4700p
C105 4700p
102
103

FIN. REF	
R	186
C	110
S	107
X	101
ND	103
TP	104
E	101
IC	103
Q	121
D	128

KY-194A

1-637-236-13, 14 (1)
SVO-965P
SVO-915P

HN-198; TAPE TOP SENSOR, TAPE TOP/END LED, CONNECTION
SW-668; MISS REC


CN656 3P W-L
PM1001
B-SOL
0
2
1
1 BRAKE SOL ON OUT
2 BRAKE SOL OFF OUT
3 BRAKE SOL COM OUT
CN657 5P Y-L
LE-131 ②
LE-131 ⓪
SE-230 ①
SE-230 ④
SE-230 ③
1 TEN REG VCC LED OUT
2 GND
3 TEN REG CDS (+) OUT
4 TEN REG CDS (S) IN
5 TEN REG CDS (-) OUT
CN658 8P Y-L
BRAKE SOL ON IN 8 SS (2/3). 102-8
BRAKE SOL OFF IN 7 SS (2/3). 102-7
BRAKE SOL COM IN 6 SS (2/3). 102-6
L:C-IN/MISS REC OUT 5 SS (1/3). 102-5
TEN REG LED VCC IN 4 SS (2/3). 102-4
TEN REG CDS (+) IN 3 SS (2/3). 102-3
TEN REG CDS (S) OUT 2 SS (2/3). 102-2
GND 1 SS (2/3). 102-1
1
③
W1
W1
S2
MISS REC
CN655 5P B-L
L:T-SENSOR OUT 1 SS (2/3). 103-1
L:CASSETTE DOWN OUT 2 SS (1/3). 103-2
N.C 3 SS (3/3). 103-3
TOP/END LED VCC IN 4 SS (2/3). 103-4
TOP/END SENSER GND 5 SS (2/3). 103-5
JW1
JW2
Q1
PT483F1
S1
D1
GL451V
CASSETTE DOWN

SW-668

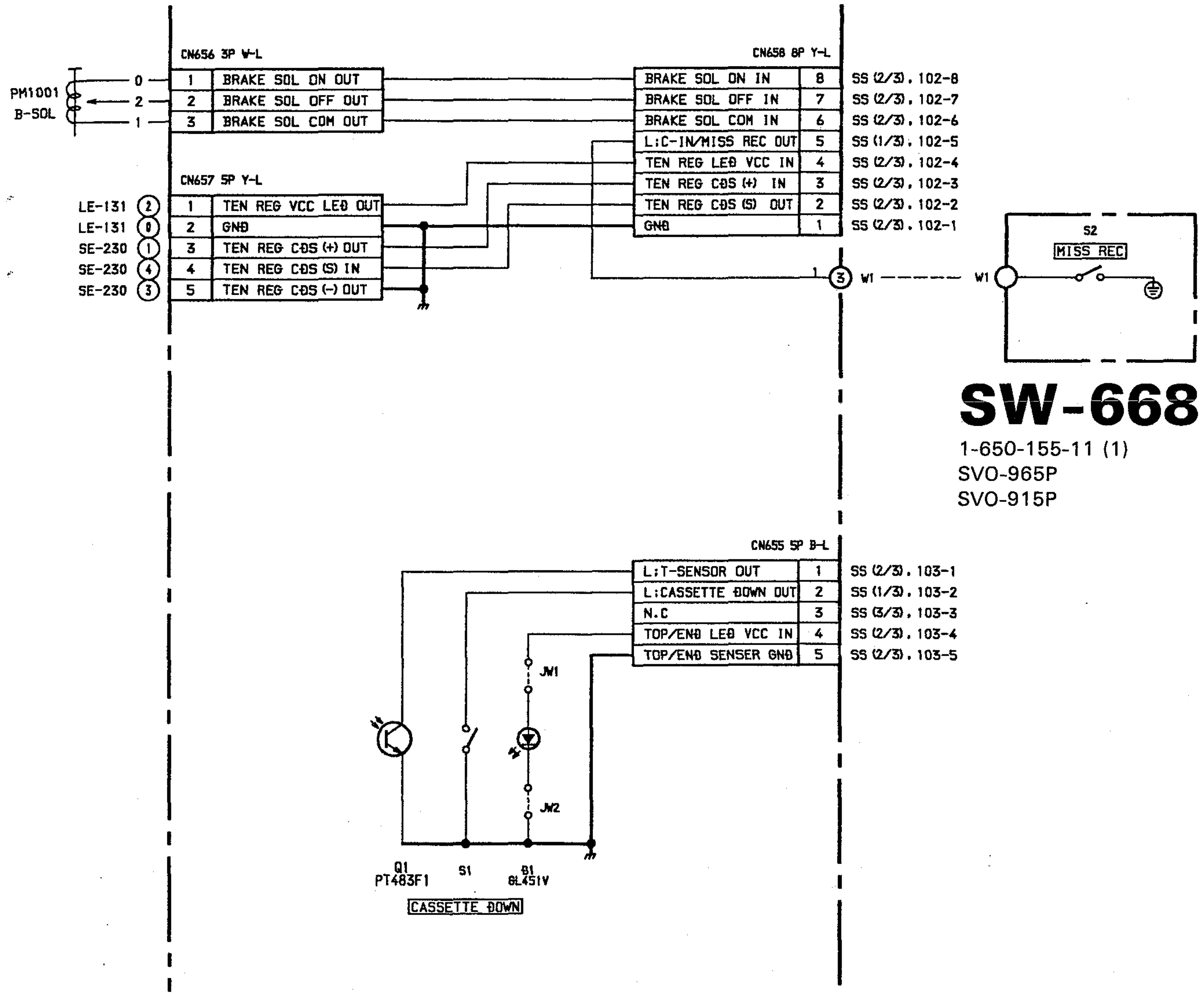
1-650-155-11 (1)
SVO-965P
SVO-915P

HN-198

1-650-152-11 (1)
SVO-965P
SVO-915P

HN-198, SW-668

198; TAPE TOP SENSOR, TAPE TOP/END LED, CONNECTION
668; MISS REC

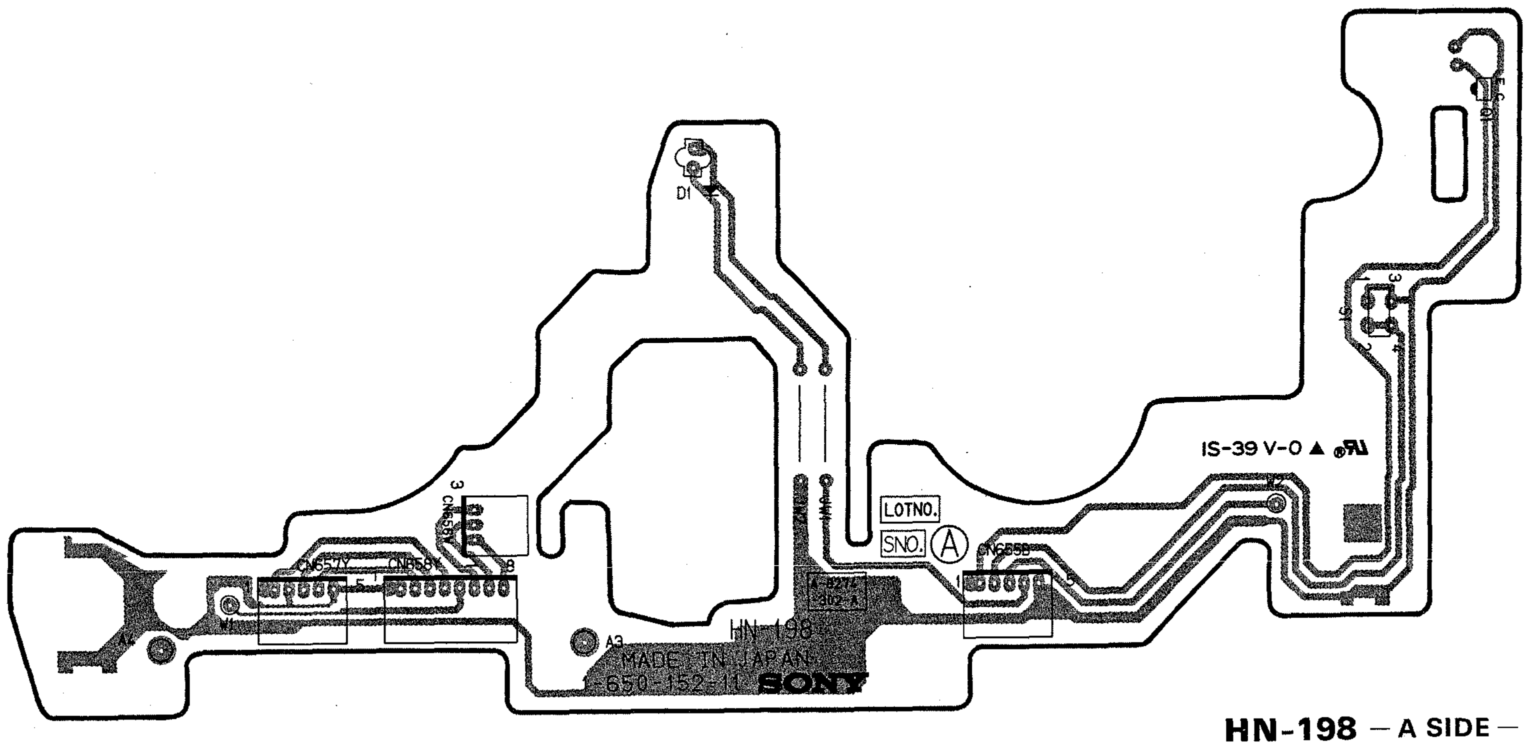

CN656 3P W-L
PM1001
B-SOL
0
2
1
1 BRAKE SOL ON OUT
2 BRAKE SOL OFF OUT
3 BRAKE SOL COM OUT
CN657 5P Y-L
LE-131 ②
LE-131 ⓪
SE-230 ①
SE-230 ④
SE-230 ③
1 TEN REG VCC LED OUT
2 GND
3 TEN REG COS (+) OUT
4 TEN REG COS (S) IN
5 TEN REG COS (-) OUT
CN658 8P Y-L
BRAKE SOL ON IN 8 SS (2/3), 102-8
BRAKE SOL OFF IN 7 SS (2/3), 102-7
BRAKE SOL COM IN 6 SS (2/3), 102-6
L:C-IN/MISS REC OUT 5 SS (1/3), 102-5
TEN REG LED VCC IN 4 SS (2/3), 102-4
TEN REG COS (+) IN 3 SS (2/3), 102-3
TEN REG COS (S) OUT 2 SS (2/3), 102-2
GND 1 SS (2/3), 102-1
1
③ W1
W1
S2
MISS REC
SW-668
1-650-155-11 (1)
SVO-965P
SVO-915P
CN655 5P B-L
L:T-SENSOR OUT 1 SS (2/3), 103-1
L:CASSETTE DOWN OUT 2 SS (1/3), 103-2
N.C 3 SS (3/3), 103-3
TOP/END LED VCC IN 4 SS (2/3), 103-4
TOP/END SENSER GND 5 SS (2/3), 103-5
JW1
JW2
Q1
PT483F1
S1
D1
GL451V
CASSETTE DOWN

HN-198
1-650-152-11 (1)
SVO-965P
SVO-915P

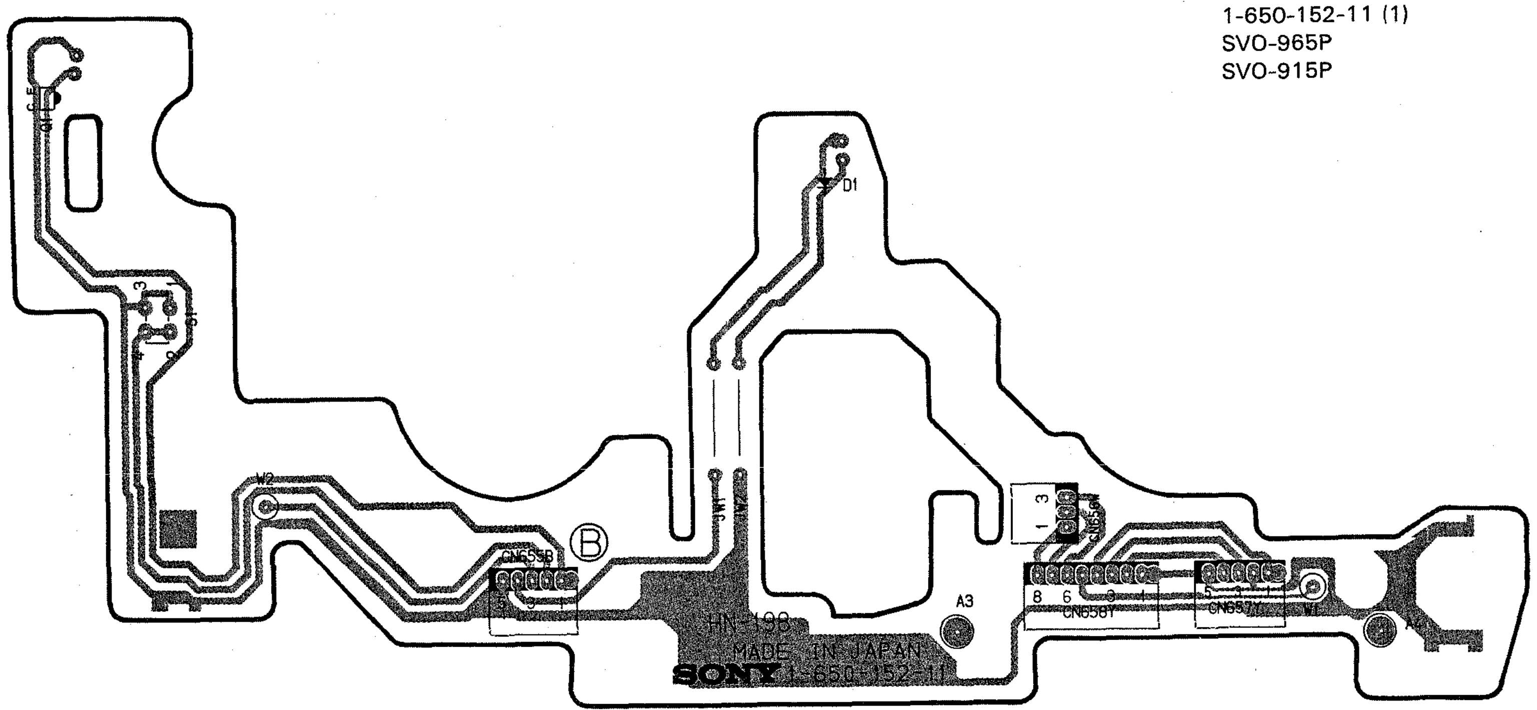
10-28

HN-198, SW-668

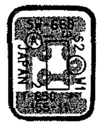
HN-198; TAPE TOP SENSOR, TAPE TOP/END LED, CONNECTION
SW-668; MISS REC


D1
CN657Y
CN658Y
CN655B
LOTNO.
SNO.
Ⓐ
HN-198
MADE IN JAPAN
1-650-152-11
SONY
A3
W1
W2
S1
IS-39 V-0

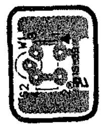
HN-198 — A SIDE —
1-650-152-11 (1)
SVO-965P
SVO-915P


D1
S1
W1
W2
Ⓑ
CN655B
CN658Y
CN657Y
HN-198
MADE IN JAPAN
1-650-152-11
SONY
A3

HN-198 — B SIDE —
1-650-152-11 (1)
SVO-965P
SVO-915P



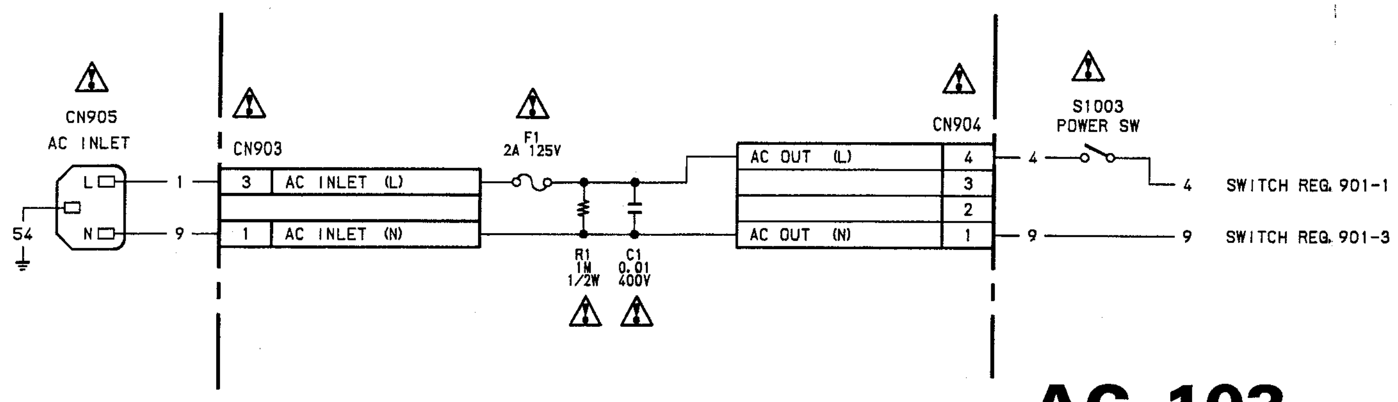
SW-668 — A SIDE —
1-650-155-11 (1)
SVO-965P
SVO-915P



SW-668 — B SIDE —
1-650-155-11 (1)
SVO-965P
SVO-915P

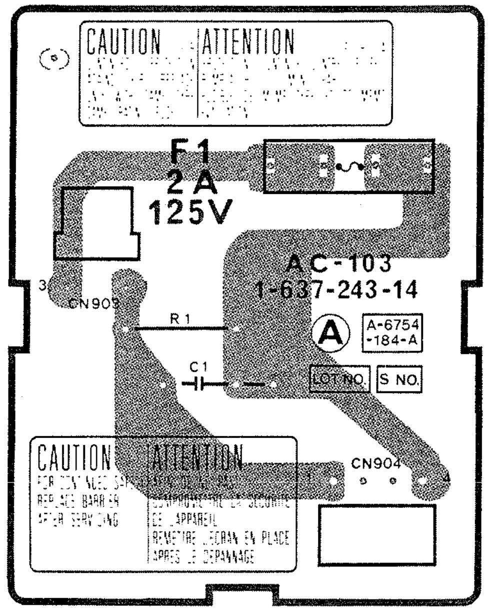
10-29

AC-103 ; AC INPUT

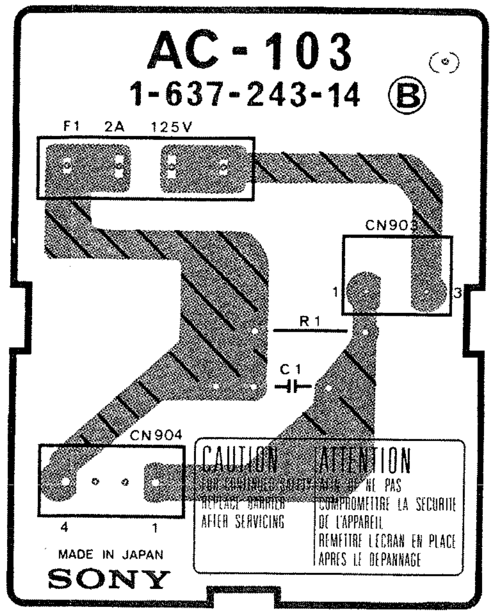

CN905
AC INLET
L
N
54
1
9
CN903
3
AC INLET (L)
1
AC INLET (N)
F1
2A 125V
R1
1M
1/2W
C1
0.01
400V
CN904
AC OUT (L)
AC OUT (N)
4
3
2
1
S1003
POWER SW
4
9
SWITCH REG. 901-1
SWITCH REG. 901-3

NOTE :
The ⚠-marked components are critical to sefety.
Replace only with same components as specified.

AC-103
1-637-243-14 (1)
SVO-965P (UC)

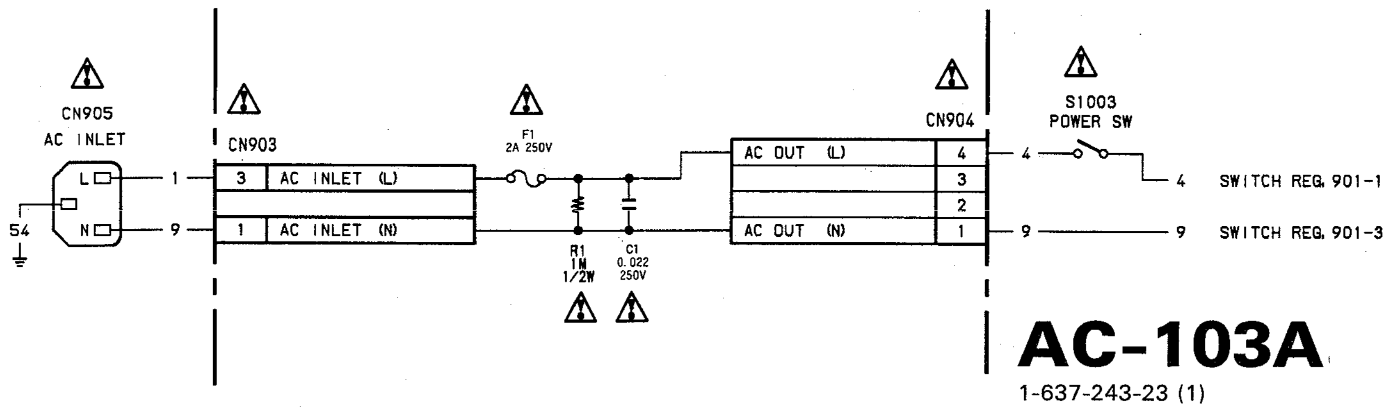

CAUTION
ATTENTION
F1
2A
125V
AC-103
1-637-243-14
A
A-6754
-184-A
LOT NO.
S NO.
3
CN903
R1
C1
CN904
CAUTION
ATTENTION

AC-103 — A SIDE —
1-637-243-14 (1)
SVO-965P (UC)


AC-103
1-637-243-14
B
F1 2A 125V
CN903
1
3
R1
C1
CN904
4
1
MADE IN JAPAN
SONY
CAUTION
ATTENTION
REPLACE BARRIER
AFTER SERVICING
NE PAS
COMPROMETTRE LA SECURITE
DE L'APPAREIL
REMETTRE L'ECRAN EN PLACE
APRES LE DEPANNAGE

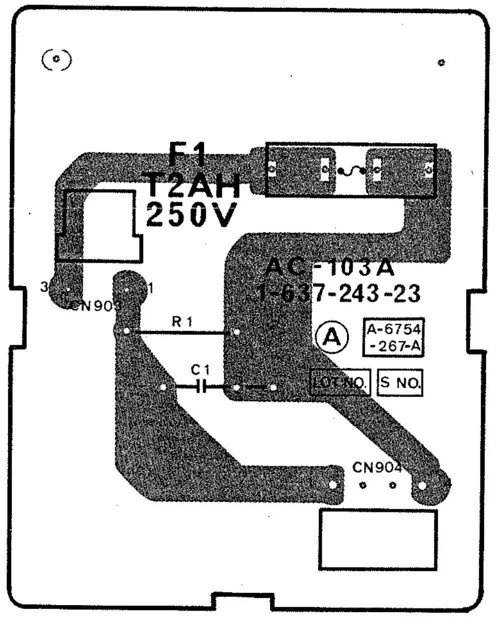
AC-103 — B SIDE —
1-637-243-14 (1)
SVO-965P (UC)

AC-103A ; AC INPUT

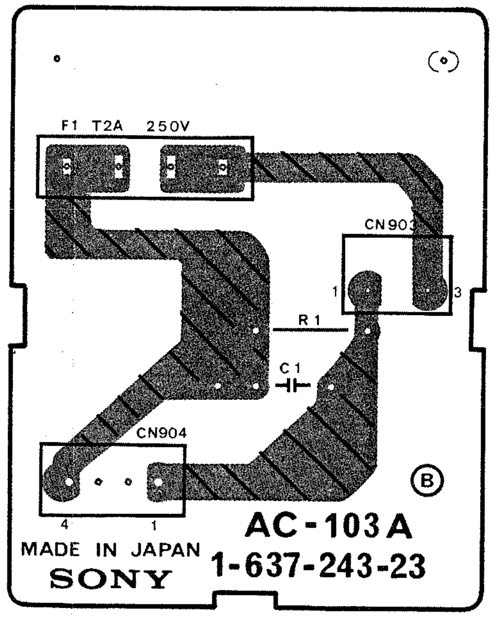

CN905
AC INLET
L
N
54
1
9
CN903
3
AC INLET (L)
1
AC INLET (N)
F1
2A 250V
R1
1M
1/2W
C1
0.022
250V
CN904
AC OUT (L)
AC OUT (N)
4
3
2
1
S1003
POWER SW
4
9
SWITCH REG. 901-1
SWITCH REG. 901-3

AC-103A
1-637-243-23 (1)
SVO-965P (EK)
SVO-915P (EK)

NOTE :
The ⚠-marked components are critical to sefety.
Replace only with same components as specified.


F1
T2AH
250V
AC-103A
1-637-243-23
A
A-6754
-267-A
LOT NO.
S NO.
3
CN903
1
R1
C1
CN904

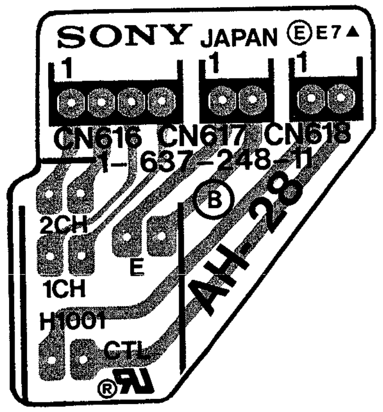
AC-103A — A SIDE —
1-637-243-23 (1)
SVO-965P (EK)
SVO-915P (EK)


F1 T2A 250V
CN903
1
3
R1
C1
CN904
4
1
B
AC-103A
1-637-243-23
MADE IN JAPAN
SONY

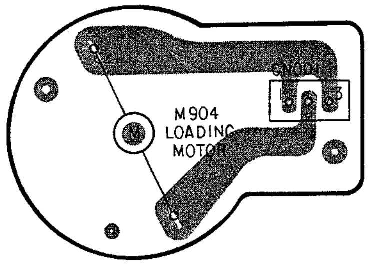
AC-103A — B SIDE —
1-637-243-23 (1)
SVO-965P (EK)
SVO-915P (EK)

FRAME (SVO-965P)

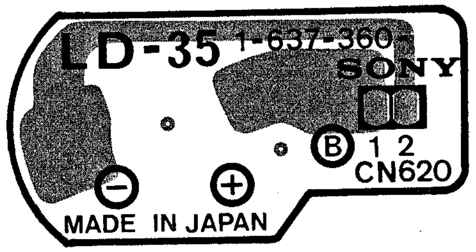
AH-28; AUDIO/ERASE/CTL HEAD
CM-14; CASSETTE COMPARTMENT MOTOR
LD-35; LOADING MOTOR
LE-131; TENSION REGULATOR LED
SE-230; TENSION REGULATOR CDS DETECT


SONY JAPAN E7
1
1
1
CN616 CN617 CN618
1-637-248-11
B
2CH
E
1CH
H1001
CTL
AH-28

AH-28 — B SIDE —
1-637-248-11 (1)
SVO-965P
SVO-915P

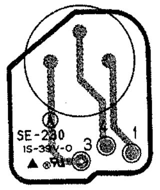

M904
LOADING
MOTOR

CM-14 — B SIDE —
1-630-505-21 (1)
SVO-965P
SVO-915P

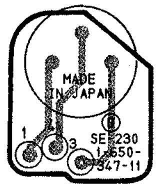

LD-35 1-637-360
SONY
B
1 2
CN620
MADE IN JAPAN

LD-35 — B SIDE —
1-637-360-13 (1)
SVO-965P
SVO-915P

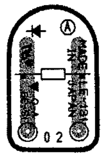
B Side is the same as SOLDER Side



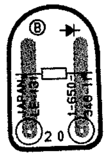
SE-230 — A SIDE —
1-650-347-11 (1)
SVO-965P
SVO-915P


MADE IN JAPAN
SE230
1-650-347-11
1
2
3

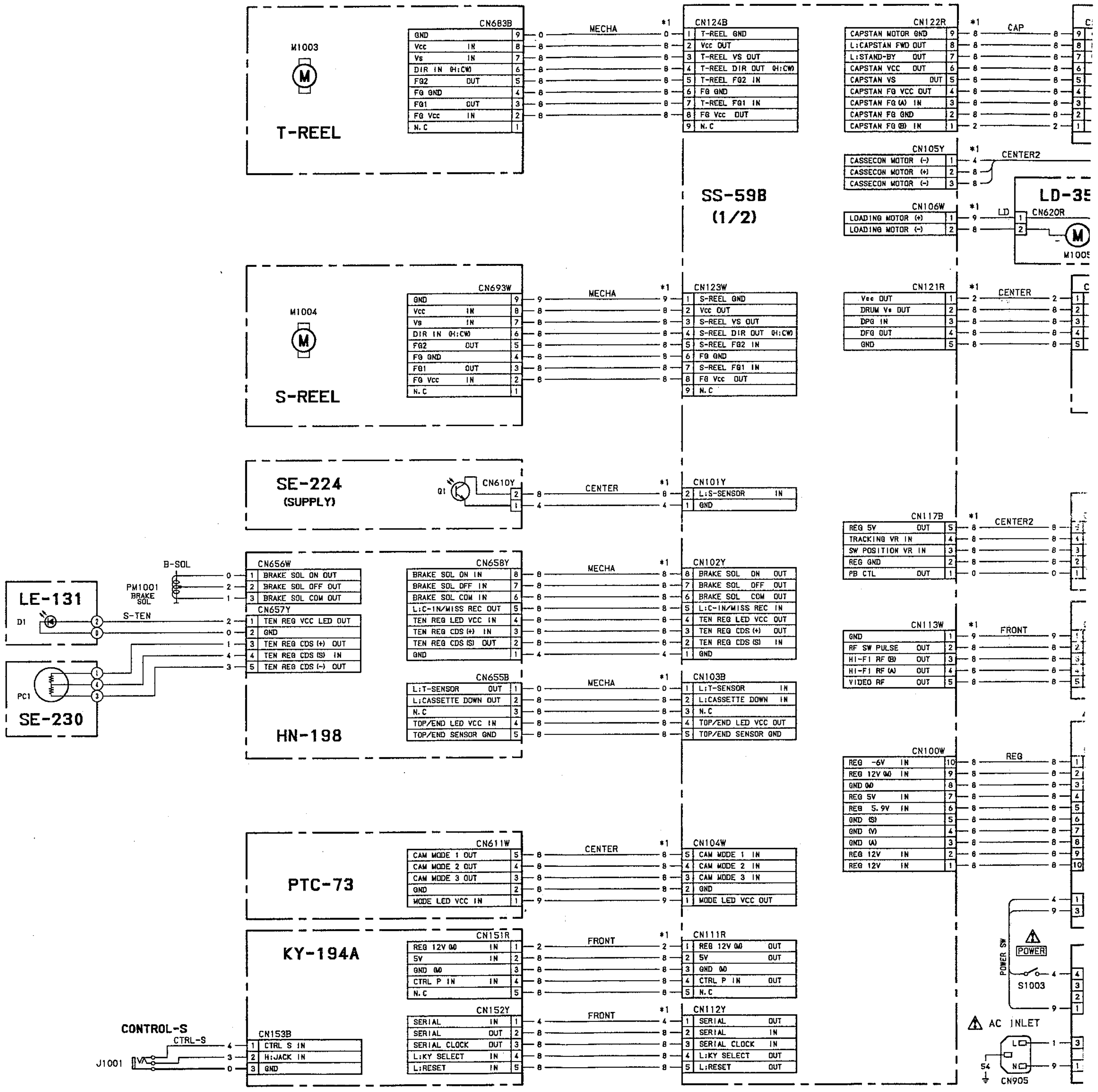
SE-230 — B SIDE —
1-650-347-11 (1)
SVO-965P
SVO-915P



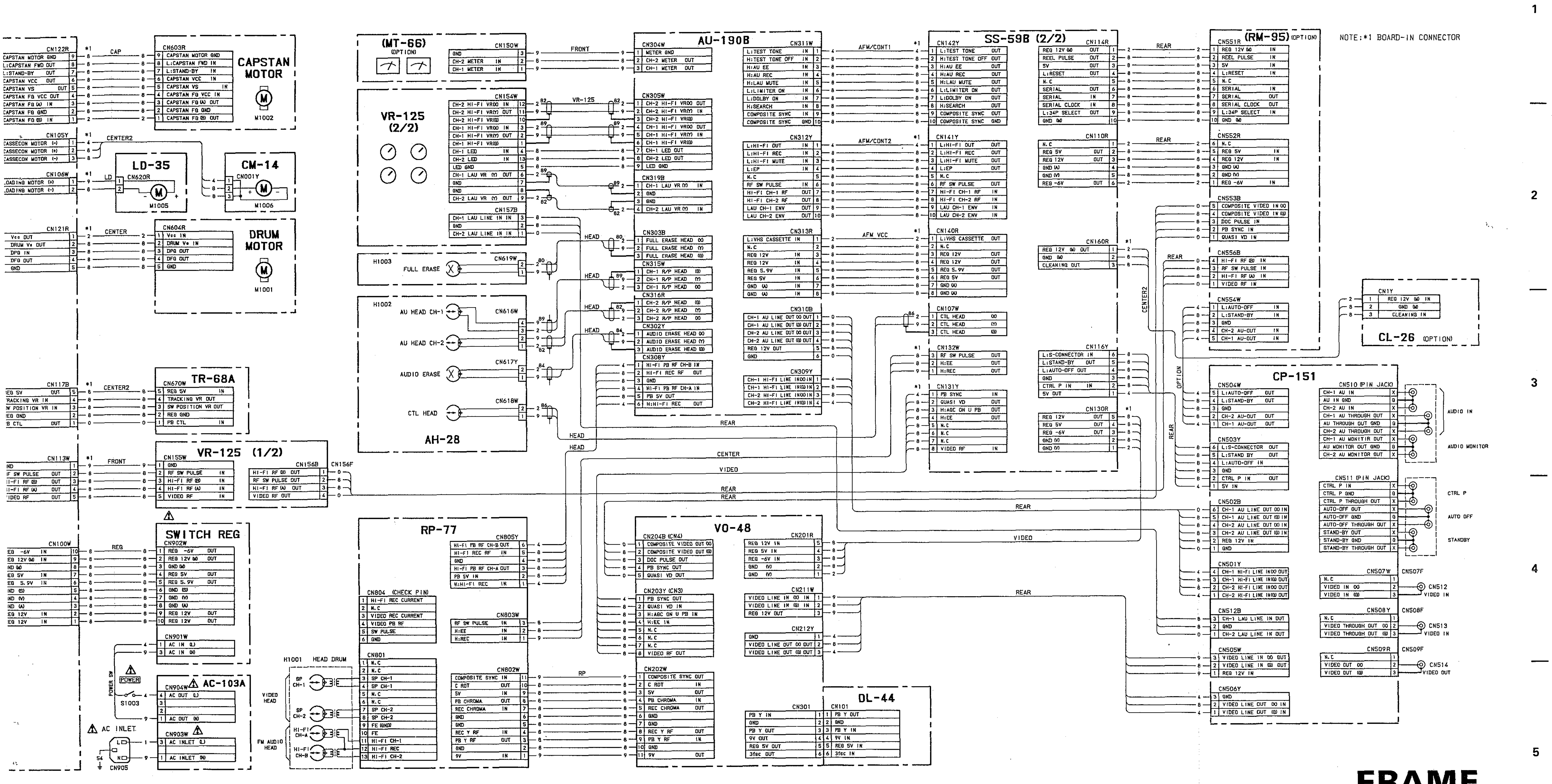
LE-131 — A SIDE —
1-650-346-11 (1)
SVO-965P
SVO-915P



LE-131 — B SIDE —
1-650-346-11 (1)
SVO-965P
SVO-915P


M1003
T-REEL
CN683B
GND 9
Vcc IN 8
Vs IN 7
DIR IN (H:CW) 6
FG2 OUT 5
FG GND 4
FG1 OUT 3
FG Vcc IN 2
N.C 1
MECHA
*1
CN124B
1 T-REEL GND
2 Vcc OUT
3 T-REEL VS OUT
4 T-REEL DIR OUT (H:CW)
5 T-REEL FG2 IN
6 FG GND
7 T-REEL FG1 IN
8 FG Vcc OUT
9 N.C
SS-59B
(1/2)
CN122R
CAPSTAN MOTOR GND 9
L:CAPSTAN FWD OUT 8
L:STAND-BY OUT 7
CAPSTAN VCC OUT 6
CAPSTAN VS OUT 5
CAPSTAN FG VCC OUT 4
CAPSTAN FG (A) IN 3
CAPSTAN FG GND 2
CAPSTAN FG (B) IN 1
CAP
CN105Y
CASSECON MOTOR (-) 1
CASSECON MOTOR (+) 2
CASSECON MOTOR (-) 3
CENTER2
CN106W
LOADING MOTOR (+) 1
LOADING MOTOR (-) 2
LD
LD-35
CN620R
M1005
M1004
S-REEL
CN693W
GND 9
Vcc IN 8
Vs IN 7
DIR IN (H:CW) 6
FG2 OUT 5
FG GND 4
FG1 OUT 3
FG Vcc IN 2
N.C 1
CN123W
1 S-REEL GND
2 Vcc OUT
3 S-REEL VS OUT
4 S-REEL DIR OUT (H:CW)
5 S-REEL FG2 IN
6 FG GND
7 S-REEL FG1 IN
8 FG Vcc OUT
9 N.C
CN121R
Vcc OUT 1
DRUM Vs OUT 2
DPG IN 3
DFG OUT 4
GND 5
CENTER
SE-224
(SUPPLY)
Q1
CN610Y
CN101Y
2 L:S-SENSOR IN
1 GND
CN117B
REG 5V OUT 5
TRACKING VR IN 4
SW POSITION VR IN 3
REG GND 2
PB CTL OUT 1
B-SOL
PM1001
BRAKE SOL
LE-131
D1
S-TEN
PC1
SE-230
CN656W
1 BRAKE SOL ON OUT
2 BRAKE SOL OFF OUT
3 BRAKE SOL COM OUT
CN657Y
1 TEN REG VCC LED OUT
2 GND
3 TEN REG CDS (+) OUT
4 TEN REG CDS (S) IN
5 TEN REG CDS (-) OUT
CN658Y
BRAKE SOL ON IN 8
BRAKE SOL OFF IN 7
BRAKE SOL COM IN 6
L:C-IN/MISS REC OUT 5
TEN REG LED VCC IN 4
TEN REG CDS (+) IN 3
TEN REG CDS (S) OUT 2
GND 1
CN102Y
8 BRAKE SOL ON OUT
7 BRAKE SOL OFF OUT
6 BRAKE SOL COM OUT
5 L:C-IN/MISS REC IN
4 TEN REG LED VCC OUT
3 TEN REG CDS (+) OUT
2 TEN REG CDS (S) IN
1 GND
CN113W
GND 1
RF SW PULSE OUT 2
HI-FI RF (B) OUT 3
HI-FI RF (A) OUT 4
VIDEO RF OUT 5
FRONT
CN655B
L:T-SENSOR OUT 1
L:CASSETTE DOWN OUT 2
N.C 3
TOP/END LED VCC IN 4
TOP/END SENSOR GND 5
CN103B
1 L:T-SENSOR IN
2 L:CASSETTE DOWN IN
3 N.C
4 TOP/END LED VCC OUT
5 TOP/END SENSOR GND
HN-198
CN100W
REG -6V IN 10
REG 12V (M) IN 9
GND (M) 8
REG 5V IN 7
REG 5.9V IN 6
GND (S) 5
GND (V) 4
GND (A) 3
REG 12V IN 2
REG 12V IN 1
REG
PTC-73
CN611W
CAM MODE 1 OUT 5
CAM MODE 2 OUT 4
CAM MODE 3 OUT 3
GND 2
MODE LED VCC IN 1
CN104W
5 CAM MODE 1 IN
4 CAM MODE 2 IN
3 CAM MODE 3 IN
2 GND
1 MODE LED VCC OUT
KY-194A
CN151R
REG 12V (M) IN 1
5V IN 2
GND (M) 3
CTRL P IN IN 4
N.C 5
CN111R
1 REG 12V (M) OUT
2 5V OUT
3 GND (M)
4 CTRL P IN OUT
5 N.C
CN152Y
SERIAL IN 1
SERIAL OUT 2
SERIAL CLOCK OUT 3
L:KY SELECT IN 4
L:RESET IN 5
CN112Y
1 SERIAL OUT
2 SERIAL IN
3 SERIAL CLOCK IN
4 L:KY SELECT OUT
5 L:RESET OUT
CONTROL-S
CTRL-S
J1001
CN153B
1 CTRL S IN
2 H:JACK IN
3 GND
POWER SW
POWER
S1003
AC INLET
54
CN905

FRAME (SVO-965P), AH-28, CM-14, LD-35, LE-131, SE-230

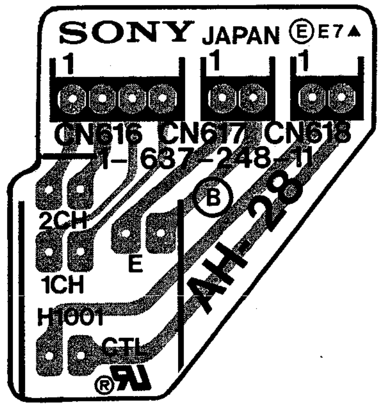

NOTE: *1 BOARD-IN CONNECTOR
CAPSTAN MOTOR
M1002
LD-35
M1005
CM-14
M1006
DRUM MOTOR
M1001
TR-68A
VR-125 (1/2)
SWITCH REG
AC-103A
POWER SW
S1003
AC INLET
CN905
(MT-66) (OPTION)
VR-125 (2/2)
AH-28
H1003 FULL ERASE
H1002
AU HEAD CH-1
AU HEAD CH-2
AUDIO ERASE
CTL HEAD
RP-77
CN804 (CHECK PIN)
H1001 HEAD DRUM
VIDEO HEAD
FM AUDIO HEAD
AU-190B
VO-48
DL-44
SS-59B (2/2)
(RM-95) (OPTION)
CL-26 (OPTION)
CP-151
CN510 (PIN JACK)
AUDIO IN
AUDIO MONITOR
CN511 (PIN JACK)
CTRL P
AUTO OFF
STANDBY
CN512 VIDEO IN
CN513 VIDEO IN
CN514 VIDEO OUT
CAP
CENTER2
LD
CENTER
FRONT
REG
REAR
VIDEO
HEAD
RP
AFM/CONT1
AFM/CONT2
AFM VCC
OPTION
1
2
3
4
5
H
I
J
K
L
M
N
O
P

FRAME

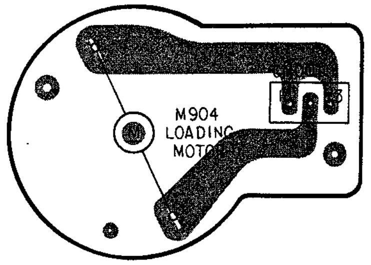
SVO-965P (1)

10-31

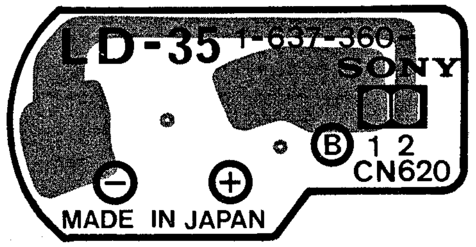
FRAME (SVO-915P)
AH-28 ; AUDIO/ERASE/CTL HEAD
CM-14 ; CASSETTE COMPARTMENT MOTOR
LD-35 ; LOADING MOTOR
LE-131 ; TENSION REGULATOR LED
SE-230 ; TENSION REGULATOR CDS DETECT


SONY JAPAN E7
CN616 CN617 CN618
1-637-248-11
2CH
1CH
E
H1001
CTL
AH-28

AH-28 — B SIDE —
1-637-248-11 (1)
SVO-965P
SVO-915P

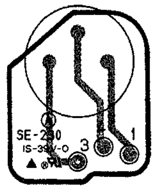

M904
LOADING MOTOR

CM-14 — B SIDE —
1-630-505-21 (1)
SVO-965P
SVO-915P

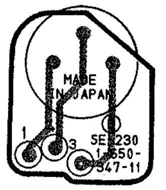

LD-35 1-637-360
SONY
1 2
CN620
MADE IN JAPAN

LD-35 — B SIDE —
1-637-360-13 (1)
SVO-965P
SVO-915P

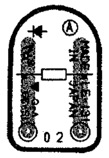
B Side is the same as SOLDER Side



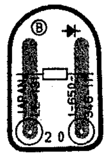
SE-230 — A SIDE —
1-650-347-11 (1)
SVO-965P
SVO-915P


MADE IN JAPAN
SE-230
1-650-347-11

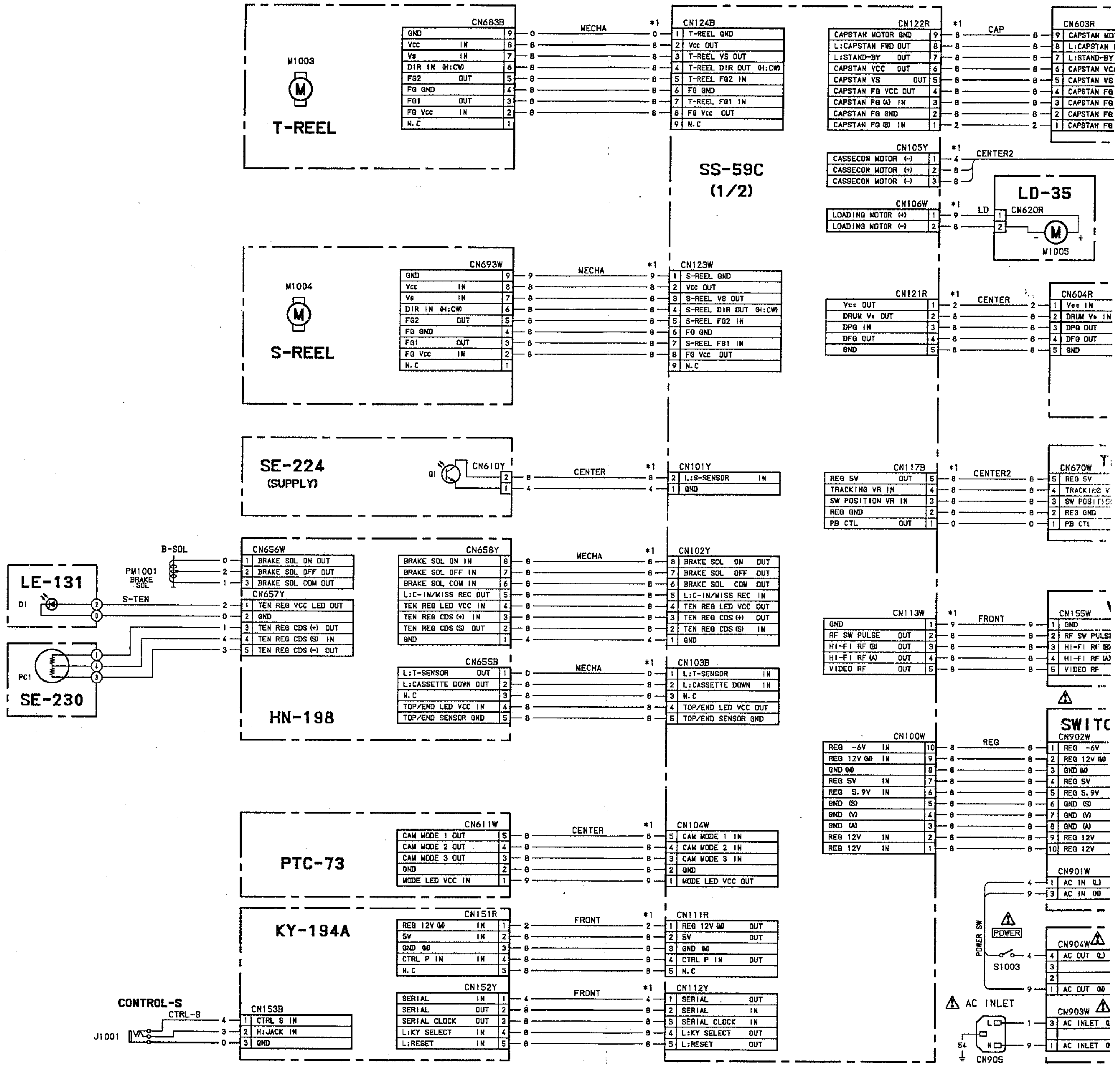
SE-230 — B SIDE —
1-650-347-11 (1)
SVO-965P
SVO-915P



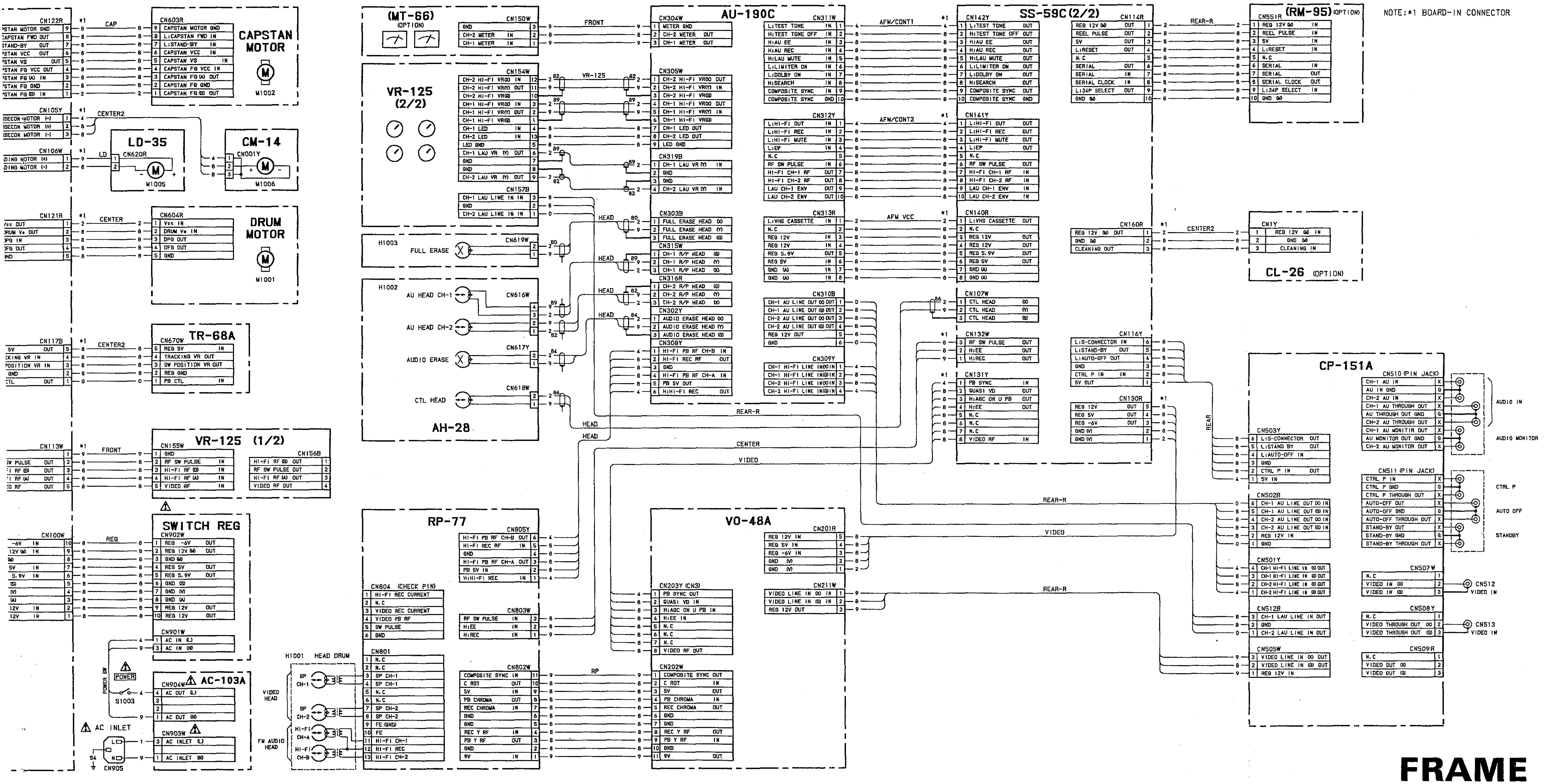
LE-131 — A SIDE —
1-650-346-11 (1)
SVO-965P
SVO-915P



LE-131 — B SIDE —
1-650-346-11 (1)
SVO-965P
SVO-915P


T-REEL
M1003
CN683B
MECHA
CN124B
SS-59C (1/2)
S-REEL
M1004
CN693W
CN123W
SE-224 (SUPPLY)
Q1
CN610Y
CENTER
CN101Y
LE-131
D1
PM1001 BRAKE SOL
B-SOL
S-TEN
SE-230
PC1
HN-198
CN656W
CN657Y
CN658Y
CN655B
CN102Y
CN103B
PTC-73
CN611W
CN104W
KY-194A
CN151R
CN111R
FRONT
CN152Y
CN112Y
CONTROL-S
CTRL-S
J1001
CN153B
CN122R
CAP
CN603R
CN105Y
CENTER2
CN106W
LD
LD-35
CN620R
M1005
CN121R
CN604R
CN117B
CN670W
CN113W
CN155W
CN100W
REG
SWITC
CN902W
CN901W
POWER SW
POWER
S1003
CN904W
AC INLET
CN903W
S4
CN905

FRAME (SVO-915P), AH-28, CM-14, LD-35, LE-131, SE-230


NOTE: *1 BOARD-IN CONNECTOR
CN122R
CAP
CN603R
CAPSTAN MOTOR
M1002
CN105Y
CENTER2
LD-35
CN620R
M1005
CM-14
CN001Y
M1006
CN106W
CN121R
CENTER
CN604R
DRUM MOTOR
M1001
CN117B
CENTER2
TR-68A
CN670W
CN113W
FRONT
VR-125 (1/2)
CN155W
CN156B
SWITCH REG
CN100W
REG
CN902W
CN901W
POWER SW
POWER
S1003
AC-103A
CN904W
CN903W
AC INLET
CN905
(MT-66)
(OPTION)
CN150W
VR-125 (2/2)
CN154W
CN157B
H1003
FULL ERASE
CN619W
H1002
AU HEAD CH-1
AU HEAD CH-2
CN616W
AUDIO ERASE
CN617Y
CTL HEAD
CN618W
AH-28
HEAD
REAR-R
CENTER
VIDEO
RP-77
CN805Y
CN804 (CHECK PIN)
CN803W
CN801
CN802W
H1001 HEAD DRUM
VIDEO HEAD
FM AUDIO HEAD
RP
AU-190C
CN304W
CN305W
CN319B
CN303B
CN315W
CN316R
CN302Y
CN308Y
CN311W
CN312Y
CN313R
CN310B
CN309Y
AFM/CONT1
AFM/CONT2
AFM VCC
VO-48A
CN201R
CN211W
CN203Y (CN3)
CN202W
SS-59C (2/2)
CN142Y
CN141Y
CN140R
CN107W
CN132W
CN131Y
CN114R
CN160R
CN116Y
CN130R
REAR-R
REAR
(RM-95) (OPTION)
CN551R
CN1Y
CL-26 (OPTION)
CP-151A
CN503Y
CN502B
CN501Y
CN512B
CN505W
CN510 (PIN JACK)
AUDIO IN
AUDIO MONITOR
CN511 (PIN JACK)
CTRL P
AUTO OFF
STANDBY
CN507W
CN512 VIDEO IN
CN508Y
CN513 VIDEO IN
CN509R

FRAME

SVO-915P (1)

10-32

SECTION 11
SEMICONDUCTOR PIN ASSIGNMENTS

ここに記載されている IC，トランジスタ，ダイオードは，それぞれの機能を等価的に表わしたものです。したがって互換性を表わすものではありません。(互換性のない型名が併記されている事もあります。)部品の交換をする時は，別冊の補修部品表を参照して下さい。

ICs, transistors and diodes that functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

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CXA1102P	11-6
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CXL5005P	11-6
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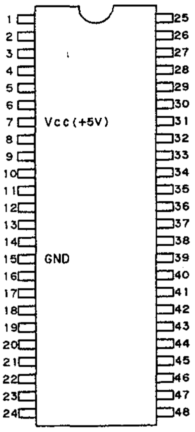
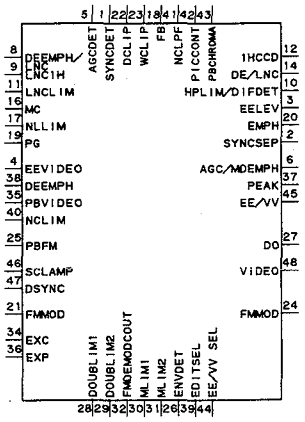
等価回路は IC メーカーの Data Book に従いました。
The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

IC

AN3231K (MATSUSHITA)
VTR LUMINANCE SIGNAL PROCESSOR
– TOP VIEW –

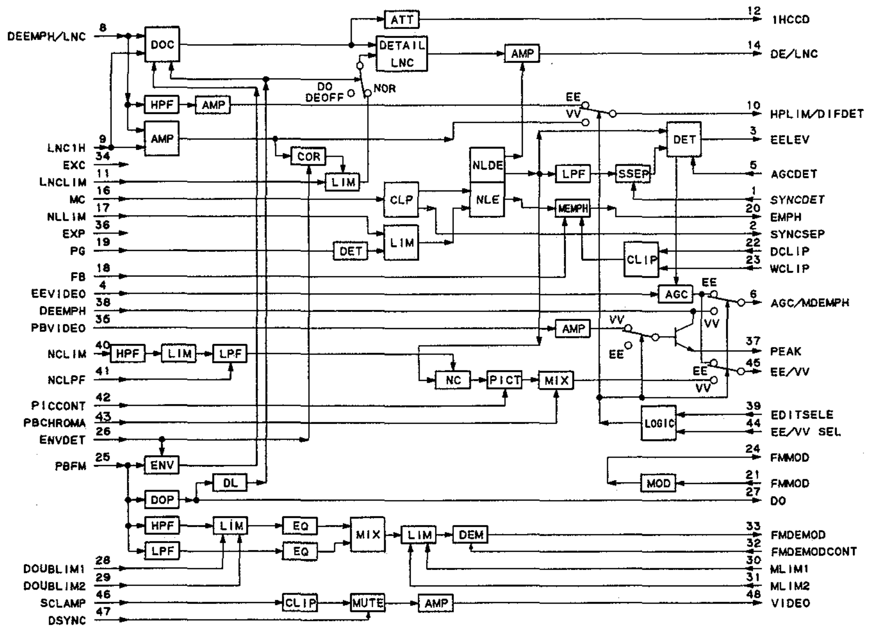

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
Vcc(+5V)
GND


5 AGCDET
1 SYNCDET
22 DCLIP
23 WCLIP
18 FB
41 NCLPF
42 PICCONT
43 PBCHROMA
8 DEEMPH/LNC
9 LNC1H
11 LNCLIM
16 MC
17 NLLIM
19 PG
4 EEVIDEO
38 DEEMPH
35 PBVIDEO
40 NCLIM
25 PBFM
46 SCLAMP
47 DSYNC
21 FMMOD
34 EXC
36 EXP
12 1HCCD
14 DE/LNC
10 HPLIM/DIFDET
3 EELEV
20 EMPH
2 SYNCSEP
6 AGC/MDEMPH
37 PEAK
45 EE/VV
27 DO
48 VIDEO
24 FMMOD
28 DOUBLIM1
29 DOUBLIM2
32 FMDEMODCOUT
30 MLIM1
31 MLIM2
26 ENVDET
39 EDITSEL
44 EE/VV SEL

PIN NO	I/O	SYMBOL	PIN NO	I/O	SYMBOL	PIN NO	I/O	SYMBOL
1	I	SYNCDET	17	I	NLLIM	33	O	FMDEMOD
2	O	SYNCSEP	18	I	FB	34	I	EXC
3	O	EELEV	19	I	PG	35	I	PBVIDEO
4	I	EEVIDEO	20	O	EMPH	36	I	EXP
5	I	AGCDET	21	I	FMMOD	37	O	PEAK
6	O	AGC/MDEMPH	22	I	DCLIP	38	I	DEEMPH
7	—	Vcc(+5V)	23	I	WCLIP	39	I	EDITSEL
8	I	DEEMPH/LNC	24	O	FMMOD	40	I	NCLIM
9	I	LNC 1H	25	I	PBFM	41	I	NCLPF
10	O	HPLIM/DIFDET	26	I	ENVDET	42	I	PICCONT
11	I	LNCLIM	27	O	DO	43	I	PBCHROMA
12	O	1H CCD	28	I	DOUBLIM1	44	I	EE/VV SEL
13	—	N.C.	29	I	DOUBLIM2	45	O	EE/VV
14	O	DE/LNC	30	I	MLIM1	46	I	SCLAMP`
15	—	GND	31	I	MLIM2	47	I	DSYNC
16	I	MC	32	I	FMDEMODCONT	48	O	VIDEO

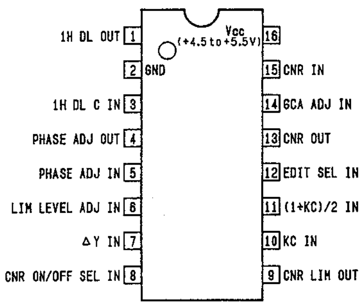
INPUT
AGCDET ;AUTO GAIN CONTROL DETECTION
DCLIP ;DARK CLIP
DEEMPH ;MAIN DEEMPHASIS
DEEMPH/LNC ;DEEMPHASIS/LUMINANCE MAIN SIGNAL
DOUBLIM1 ;DOUBLE LIMITER HPF SIDE BIAS(1)
DOUBLIM2 ;DOUBLE LIMITER HPF SIDE BIAS(2)
DSYNC ;DUMMY SYNC PULSE
EDITSEL ;EDIT MODE SELECT
EEVIDEO ;VIDEO SIGNAL at EE
EE/VV SEL ;EE/VV SELECT
ENVDET ;ENVELOP DETECTION
EXC ;EXCEPT REC Vcc
EXP ;VIDEO EXPENSION
FB ;FEED BACK AMP
FMDEMODCONT ;FM DEMODURATION GAIN CONTROL
FMMOD ;FM MODURATION
LNC1H ;LUMINANCE 1H DELAY SIGNAL
LNCLIM ;LUMINANCE LIMITER
MC ;MAIN CLAMP
MLIM1 ;MAIN LIMITER(1)
MLIM2 ;MAIN LIMITER(2)
NCLIM ;NC LIMITER
NCLPF ;NC LOW PASS FILTER
NLLIM ;NL LIMITER
PBCHROMA ;PB CHROMINANCE
PBFM ;PB FM PULSE
PBVIDEO ;PB VIDEO SIGNAL
PICCONT ;PICTURE CONTROL
PG ;PG INPUT&2,4,6H
SCLAMP ;SOFT CLAMP
SYNCDET ;SYNC TIP LEVEL DETECTION
WCLIP ;WHITE CLIP

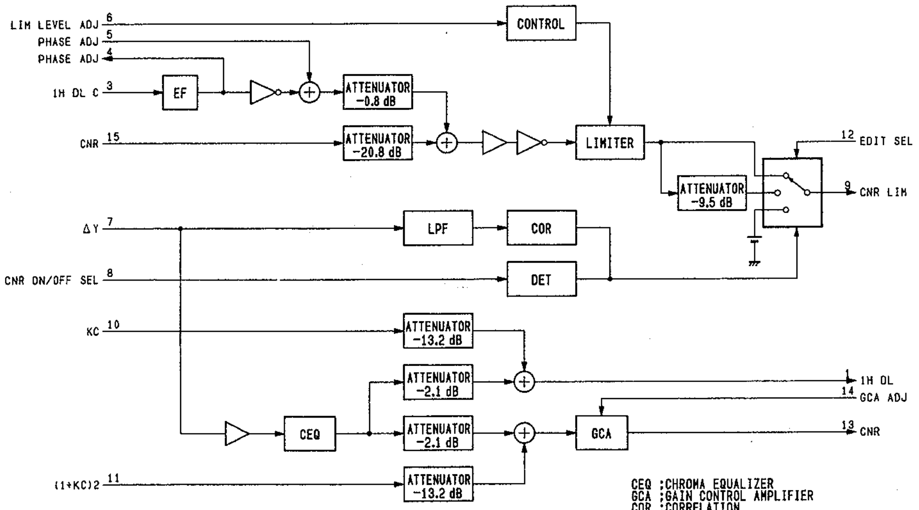
OUTPUT
1HCCD ;1H DELAY CCD
AGC/MDEMPH ;AGC/MAIN DEEMPHASIS
DE/LNC ;DEEMPHASIS/LUMINANCE
DO ;DROPOUT PULSE
EELEV ;EE LEVEL ADJUST
EE/VV ;EE/VV SW OUT
EMPH ;MAIN EMPHASIS
FMDEMOD ;FM DEMODURATION
FMMOD ;FM MODURATION
HPLIM/DIFDET ;HPLIM/DIFFERENCE DETECTION
PEAK ;VIDEO PEAKING
SYNCSEP ;SYNC SEPARATE PULSE
VIDEO ;VIDEO OUT


DEEMPH/LNC 8
LNC1H 9
EXC 34
LNCLIM 11
MC 16
NLLIM 17
EXP 36
PG 19
FB 18
EEVIDEO 4
DEEMPH 38
PBVIDEO 35
NCLIM 40
NCLPF 41
PICCONT 42
PBCHROMA 43
ENVDET 26
PBFM 25
DOUBLIM1 28
DOUBLIM2 29
SCLAMP 46
DSYNC 47
DOC
ATT
DETAIL LNC
AMP
HPF
AMP
AMP
DO
DEOFF
NOR
COR
LIM
CLP
LIM
DET
NLDE
NLE
LPF
SSEP
MEMPH
DET
CLIP
AGC
AMP
HPF
LIM
LPF
NC
PICT
MIX
LOGIC
ENV
DL
DOP
MOD
HPF
LPF
LIM
EQ
EQ
MIX
LIM
DEM
CLIP
MUTE
AMP
EE
VV
12 1HCCD
14 DE/LNC
10 HPLIM/DIFDET
3 EELEV
5 AGCDET
1 SYNCDET
20 EMPH
2 SYNCSEP
22 DCLIP
23 WCLIP
6 AGC/MDEMPH
37 PEAK
45 EE/VV
39 EDITSELE
44 EE/VV SEL
24 FMMOD
21 FMMOD
27 DO
33 FMDEMOD
32 FMDEMODCONT
30 MLIM1
31 MLIM2
48 VIDEO

AN3497SB (MATSUSHITA) FLAT PACKAGE

CHROMA NOISE REDUCTION FOR VTR
- TOP VIEW -

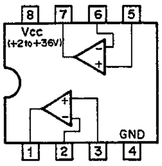

1H DL OUT 1
2 GND
1H DL C IN 3
PHASE ADJ OUT 4
PHASE ADJ IN 5
LIM LEVEL ADJ IN 6
ΔY IN 7
CNR ON/OFF SEL IN 8
Vcc (+4.5 to +5.5V) 16
15 CNR IN
14 GCA ADJ IN
13 CNR OUT
12 EDIT SEL IN
11 (1+KC)/2 IN
10 KC IN
9 CNR LIM OUT


LIM LEVEL ADJ 6
PHASE ADJ 5
PHASE ADJ 4
1H DL C 3
CNR 15
ΔY 7
CNR ON/OFF SEL 8
KC 10
(1+KC)2 11
EF
ATTENUATOR -0.8 dB
ATTENUATOR -20.8 dB
CONTROL
LIMITER
ATTENUATOR -9.5 dB
12 EDIT SEL
9 CNR LIM
LPF
COR
DET
ATTENUATOR -13.2 dB
ATTENUATOR -2.1 dB
ATTENUATOR -2.1 dB
ATTENUATOR -13.2 dB
CEQ
GCA
1 1H DL
14 GCA ADJ
13 CNR

CEQ :CHROMA EQUALIZER
GCA :GAIN CONTROL AMPLIFIER
COR :CORRELATION
KC :FEED BACK COEFFICIENT
ΔY :DIFFERENCE LEVEL OF Y
SIGNAL FOR VERTICAL CORRELATION

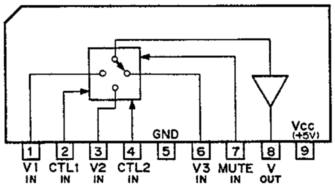
BA10393 (ROHM)

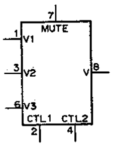
DUAL VOLTAGE COMPARATORS
- TOP VIEW -


8
7
6
5
Vcc (+2to+36V)
GND
1
2
3
4

BA7021 (ROHM)

3-INPUT VIDEO SWITCH
- SIDE VIEW -


GND
Vcc (+5V)
1 V1 IN
2 CTL1 IN
3 V2 IN
4 CTL2 IN
5
6 V3 IN
7 MUTE IN
8 V OUT
9


7
MUTE
1 V1
3 V2
6 V3
V 8
CTL1 2
CTL2 4

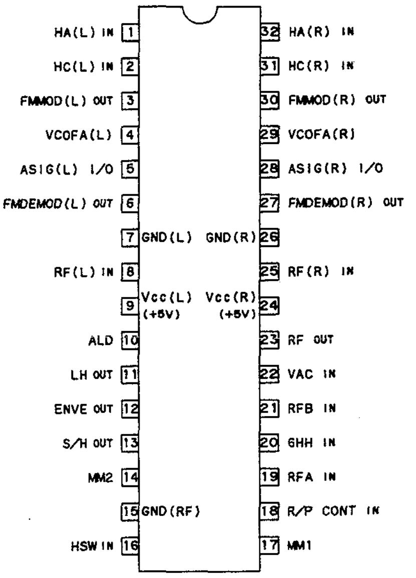
0 ; LOW LEVEL
1 ; HIGH LEVEL

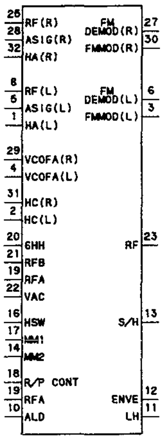
CTL1	CTL2	V
1	0	V1
0	1	V2
0	0	V3

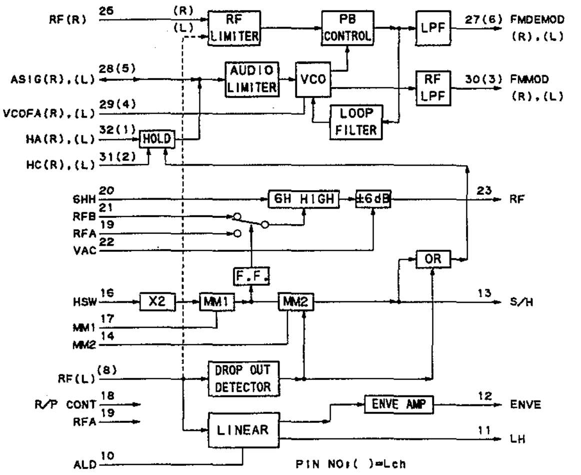
AN3932S (MATSUSHITA)

FM AUDIO AND FM MAIN FOR VCR

- TOP VIEW -


HA(L) IN 1
HC(L) IN 2
FMMOD(L) OUT 3
VCOFA(L) 4
ASIG(L) I/O 5
FMDEMOD(L) OUT 6
7 GND(L)
RF(L) IN 8
9 Vcc(L) (+5V)
ALD 10
LH OUT 11
ENVE OUT 12
S/H OUT 13
MM2 14
15 GND(RF)
HSW IN 16
32 HA(R) IN
31 HC(R) IN
30 FMMOD(R) OUT
29 VCOFA(R)
28 ASIG(R) I/O
27 FMDEMOD(R) OUT
GND(R) 26
25 RF(R) IN
Vcc(R) (+5V) 24
23 RF OUT
22 VAC IN
21 RFB IN
20 6HH IN
19 RFA IN
18 R/P CONT IN
17 MM1


25 RF(R)
28 ASIG(R)
32 HA(R)
8 RF(L)
5 ASIG(L)
1 HA(L)
29 VCOFA(R)
4 VCOFA(L)
31 HC(R)
2 HC(L)
20 6HH
21 RFB
19 RFA
22 VAC
16 HSW
17 MM1
14 MM2
18 R/P CONT
19 RFA
10 ALD
FM DEMOD(R) 27
FMMOD(R) 30
FM DEMOD(L) 6
FMMOD(L) 3
RF 23
S/H 13
ENVE 12
LH 11


RF(R) 25
(R)
(L)
RF LIMITER
PB CONTROL
LPF
27(6) FMDEMOD (R),(L)
ASIG(R),(L) 28(5)
AUDIO LIMITER
VCO
RF LPF
30(3) FMMOD (R),(L)
VCOFA(R),(L) 29(4)
LOOP FILTER
HA(R),(L) 32(1)
HOLD
HC(R),(L) 31(2)
6HH 20
RFB 21
RFA 19
VAC 22
6H HIGH
±6dB
23 RF
OR
F.F.
HSW 16
X2
MM1
MM2
13 S/H
MM1 17
MM2 14
RF(L) (8)
DROP OUT DETECTOR
R/P CONT 18
RFA 19
ENVE AMP
12 ENVE
LINEAR
11 LH
ALD 10
PIN NO:( )=Lch

INPUT

6HH ;6H HIGH
HA(R),(L) ;HOLD AMP
HC(R),(L) ;HOLD CONTROL
HSW ;HOLD SWITCH
RF(R),(L) ;RF SIGNAL
RFA ;RF INPUT A
RFB ;RF INPUT B
R/P CONT ;REC/PB CONTROL
VAC ;VARIABLE AMP CONTROL

OUTPUT

ENVE ;ENVELOPE
FMDEMOD(R),(L) ;FM DEMODULATION
FMMOD(R),(L) ;FM MODULATION
LH ;LINEAR HIGH
RF ;RF OUTPUT
S/H ;S/H OUTPUT

INPUT/OUTPUT

ASIG;AUDIO SIGNAL

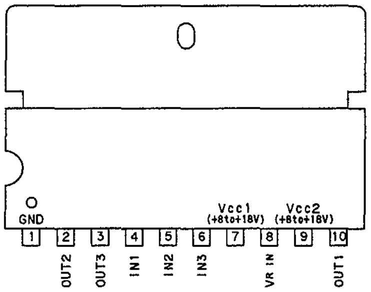
OTHERS

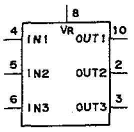
ACD ;AUDIO LINEAR DETECTION
MM1 ;MONO MULTI1
MM2 ;MONO MULTI2
VCOFA(R),(L) ;VCO FREQUENCY ADJUSTMENT

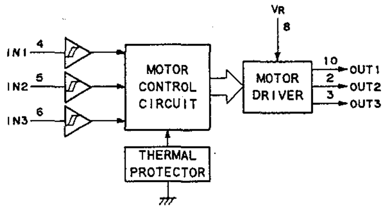
BA6238A (ROHM)

FORWARD AND REVERSE MOTOR DRIVER

- SIDE VIEW -


GND
Vcc1 (+8to+18V)
Vcc2 (+8to+18V)
1
2
3
4
5
6
7
8
9
10
OUT2
OUT3
IN1
IN2
IN3
VR IN
OUT1


8
VR
4 IN1
5 IN2
6 IN3
OUT1 10
OUT2 2
OUT3 3


VR
8
IN1 4
IN2 5
IN3 6
MOTOR CONTROL CIRCUIT
MOTOR DRIVER
10 OUT1
2 OUT2
3 OUT3
THERMAL PROTECTOR

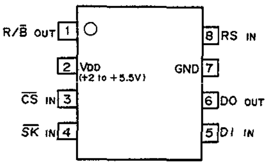
INPUT			OUTPUT			OPERATION
IN1	IN2	IN3	OUT1	OUT2	OUT3	
0	0	X	0	0	0	BRAKE
1	0	0	1	0	OPEN	MOTOR CURRENT OUT1→OUT2
1	0	1	0	1	OPEN	MOTOR CURRENT OUT2→OUT1
0	1	0	1	OPEN	0	MOTOR CURRENT OUT1→OUT3
0	1	1	0	OPEN	1	MOTOR CURRENT OUT3→OUT1
1	1	X	0	0	0	BRAKE

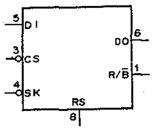
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

BR9021BF (ROHM) FLAT PACKAGE

C-MOS 2k (128x16) BITS SERIAL EEPROM

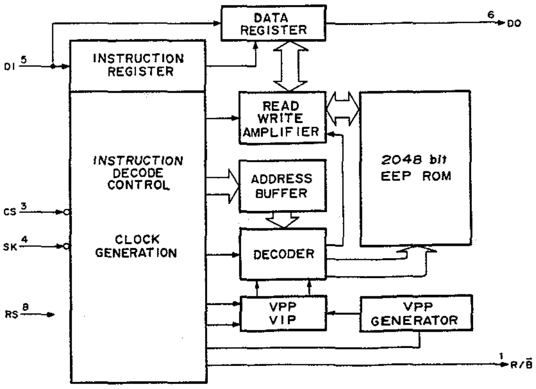
- TOP VIEW -


R/B̄ OUT 1
2 VDD (+2 to +5.5V)
C̄S̄ IN 3
S̄K̄ IN 4
8 RS IN
GND 7
6 DO OUT
5 DI IN

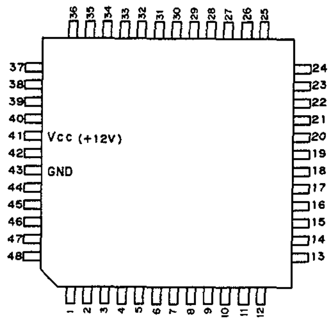

5 DI
3 CS
4 SK
DO 6
R/B̄ 1
RS 8

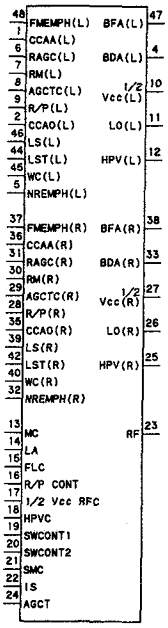
INPUT
CS ; CHIP SELECT
DI ; OP CODE, ADDRESS, AND SERIAL DATA
RS ; RESET
SK ; SERIAL DATA CLOCK

OUTPUT
DO ; SERIAL DATA OUTPUT
R/B ; READY/BUSY SIGNAL


DATA REGISTER
6 DO
DI 5
INSTRUCTION REGISTER
READ WRITE AMPLIFIER
2048 bit EEP ROM
INSTRUCTION DECODE CONTROL
ADDRESS BUFFER
CS 3
SK 4
CLOCK GENERATION
DECODER
RS 8
VPP VIP
VPP GENERATOR
1 R/B̄

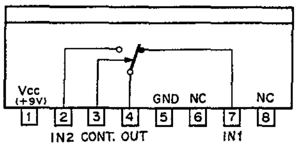
AN3972FC (MATSUSHITA) FLAT PACKAGE
PEAK NOISE REDUCTION FOR HIFI VCR FM AUDIO
- TOP VIEW -

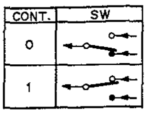

Vcc (+12V)
GND
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45 46 47 48


48 FMEMPH(L)
1 CCAA(L)
6 RAGC(L)
7 RM(L)
8 AGCTC(L)
9 R/P(L)
2 CCAO(L)
46 LS(L)
44 LST(L)
45 WC(L)
5 NREMPH(L)
47 BFA(L)
4 BDA(L)
10 1/2 Vcc(L)
11 LO(L)
12 HPV(L)
37 FMEMPH(R)
36 CCAA(R)
31 RAGC(R)
30 RM(R)
29 AGCTC(R)
28 R/P(R)
35 CCAO(R)
39 LS(R)
42 LST(R)
40 WC(R)
32 NREMPH(R)
38 BFA(R)
33 BDA(R)
27 1/2 Vcc(R)
26 LO(R)
25 HPV(R)
13 MC
14 LA
15 FLC
16 R/P CONT
17 1/2 Vcc RFC
18 HPVC
19 SWCONT1
20 SWCONT2
21 SMC
22 IS
24 AGCT
23 RF

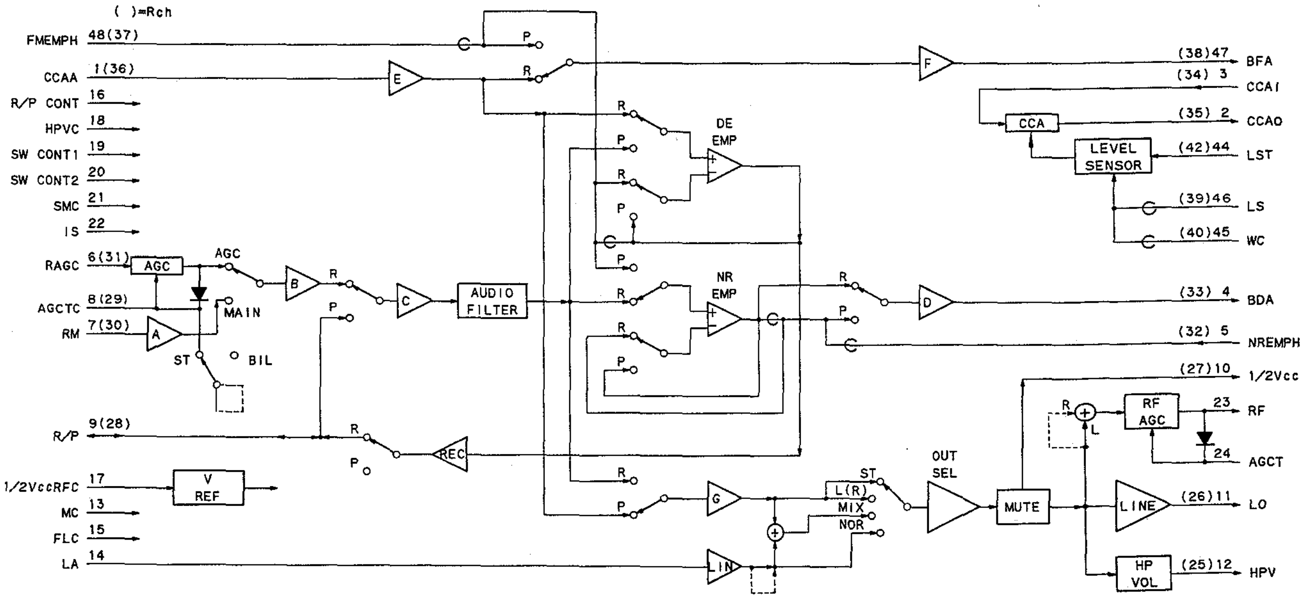
PIN NO	I/O	SIGNAL	PIN NO	I/O	SIGNAL	PIN NO	I/O	SIGNAL
1	I	CCAA(L)	17	I	1/2VccRFC	33	O	BDA(R)
2	O	CCAO(L)	18	I	HPVC	34	I	CCAI(R)
3	I	CCAI(L)	19	I	SWCONT1	35	O	CCAO(R)
4	O	BDA(L)	20	I	SWCONT2	36	I	CCAA(R)
5	I	NREMPH(L)	21	I	SMC	37	I	FMEMPH(R)
6	I	RAGC(L)	22	I	IS	38	O	BFA(R)
7	I	RM(L)	23	O	RF	39	I	LS(R)
8	I	AGCTC(L)	24	I	AGCT	40	I	WC(R)
9	I/O	R/P(L)	25	O	HPV(R)	41	-	Vcc(+12V)
10	O	1/2 Vcc(L)	26	O	LO(R)	42	I	LST(R)
11	O	LO(L)	27	O	1/2Vcc(R)	43	-	GND
12	O	HPV(L)	28	I/O	R/P(R)	44	I	LST
13	I	MC	29	I	AGCTC(R)	45	I	WC(L)
14	I	LA	30	I	RM(R)	46	I	LS(L)
15	I	FLC	31	I	RAGC(R)	47	O	BFA(L)
16	I	R/P CONT	32	I	NREMPH(R)	48	I	FMEMPH(L)

CX20061 (SONY)
ANALOG SWITCH
- SIDE VIEW -


Vcc (+9V)
GND
NC
NC
1 2 3 4 5 6 7 8
IN2
CONT.
OUT
IN1



0; LOW LEVEL
1; HIGH LEVEL


( )=Rch
FMEMPH 48(37)
CCAA 1(36)
R/P CONT 16
HPVC 18
SW CONT1 19
SW CONT2 20
SMC 21
IS 22
RAGC 6(31)
AGCTC 8(29)
RM 7(30)
R/P 9(28)
1/2VccRFC 17
MC 13
FLC 15
LA 14
AGC
A
B
C
E
F
D
G
AGC
MAIN
ST
BIL
AUDIO FILTER
REC
V REF
DE EMP
NR EMP
R
P
L(R)
MIX
NOR
ST
OUT SEL
MUTE
LIN
LINE
HP VOL
RF AGC
CCA
LEVEL SENSOR
L
(38)47 BFA
(34) 3 CCAI
(35) 2 CCAO
(42)44 LST
(39)46 LS
(40)45 WC
(33) 4 BDA
(32) 5 NREMPH
(27)10 1/2Vcc
23 RF
24 AGCT
(26)11 LO
(25)12 HPV

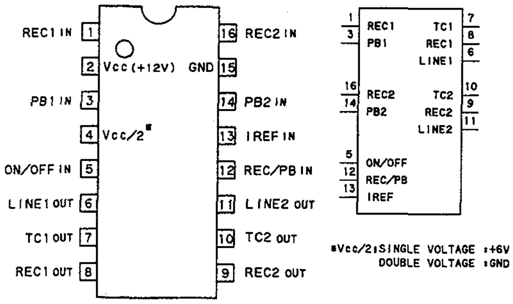
INPUT
1/2 Vcc RFC ; 1/2 Vcc RIPPLE FILTERER CAPACITOR
AGCT ; AGC TIMING FOR RF
AGCTC (L),(R) ; AGC TIMING CAPACITOR
CCAA (L),(R) ; CCA AMP
CCAI (L),(R) ; CCA INPUT
FLC ; FORCED LINEAR CONTROL
FMEMPH (L),(R) ; FM EMPHASIS CAPACITOR
HPVC ; HEADPHONE VOLUME CONTROL DC
IS ; REC AGC/MANUAL CONTROL
LA ; LINEAR AUDIO
LS (L),(R) ; LEVEL SENSOR
LST (L),(R) ; LEVEL SENSOR TIMING
MC ; MUTING CONTROL
NREMPH (L),(R) ; NR EMPHASIS CAPACITOR
RAGC (L),(R) ; REC AGC
RM (L),(R) ; REC MANUAL
R/P CONT ; REC/PB CONTROL
SMC ; AGC ST/BILL/OUTPUT MIX CONTROL
SW CONT1 ; OUTPUT SWITCHING CONTROL1
SW CONT2 ; OUTPUT SWITCHING CONTROL2

OUTPUT
1/2 Vcc (L),(R) ; 1/2 Vcc OUTPUT
BDA (L),(R) ; BUFFER D AMP
BFA (L),(R) ; BUFFER F AMP
CCAO (L),(R) ; CCA OUTPUT
HPV (L),(R) ; HEADPHONE VOLUME
LO (L),(R) ;LINE OUTPUT
RF ;OUTPUT FOR RF

INPUT/OUTPUT
R/P (L),(R);REC OUT/PB IN

CXA1102P (SONY)

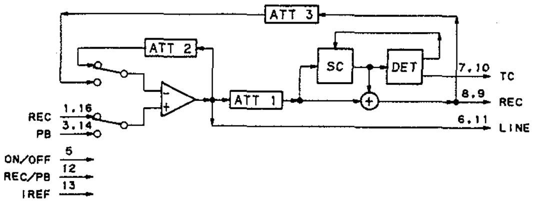
DOLBY TYPE-B NOISE REDUCTION SYSTEM
– TOP VIEW –


REC1 IN 1
2 Vcc(+12V)
PB1 IN 3
4 Vcc/2*
ON/OFF IN 5
LINE1 OUT 6
TC1 OUT 7
REC1 OUT 8
16 REC2 IN
GND 15
14 PB2 IN
13 IREF IN
12 REC/PB IN
11 LINE2 OUT
10 TC2 OUT
9 REC2 OUT
REC1
PB1
TC1
REC1
LINE1
REC2
PB2
TC2
REC2
LINE2
ON/OFF
REC/PB
IREF

*Vcc/2:SINGLE VOLTAGE :+6V
DOUBLE VOLTAGE :GND

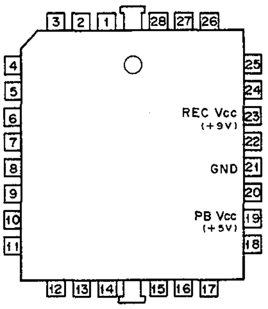
INPUT
IREF ;REFERENCE CURRENT SOURCE
ON/OFF;DOLBY NR ON/OFF SELECT(H:OFF/L:ON)
PB ;PB(DECODE) INPUT
REC ;REC(ENCODE) INPUT
REC/PB;REC/PB SELECT(H:PB/L:REC)

OUTPUT
LINE;LINE(DECODE) OUTPUT
REC ;REC(ENCODE) OUTPUT
TC ;LEVEL DETECTOR TIME CONSTANT

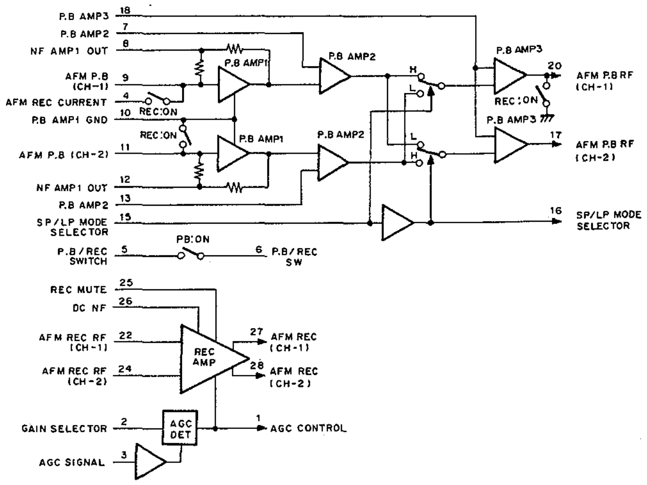

ATT 3
ATT 2
SC
DET
ATT 1
7,10 TC
8,9 REC
6,11 LINE
REC 1,16
PB 3,14
ON/OFF 5
REC/PB 12
IREF 13

HA12115MP (HITACHI)

REC/PLAY AMPLIFIER FOR Hi-Fi VHS
– TOP VIEW –

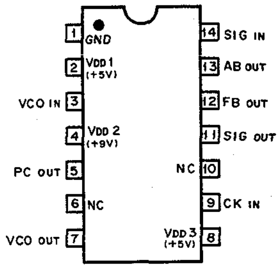

REC Vcc (+9V)
GND
PB Vcc (+5V)

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	O	AGC CONTROL	15	I	SP/LP MODE SELECTOR
2	I	GAIN SELECTOR	16	O	SP/LP MODE SELECTOR
3	I	AGC SIGNAL	17	O	AFM P.B RF (CH-1)
4	I	AFM REC CURRENT	18	I	P.B AMP3
5	I	P.B/REC SWITCH	19	–	P.B Vcc
6	O	P.B/REC SWITCH	20		AFM P.B RF (CH-2)
7	I	P.B AMP2	21	–	GND
8	O	NF AMP1	22	I	AFM REC RF (CH-1)
9	I	AFM P.B (CH-1)	23	–	REC Vcc
10	I	P.B AMP1 GND	24	I	AFM REC RF (CH-2)
11	I	AFM P.B (CH-2)	25	I	REC MUTE
12	I	NF AMP1	26	I	DC NF
13	O	P.B AMP1	27	O	AFM REC (CH-1)
14	–	PRE Vcc	28	O	AFM REC (CH-2)

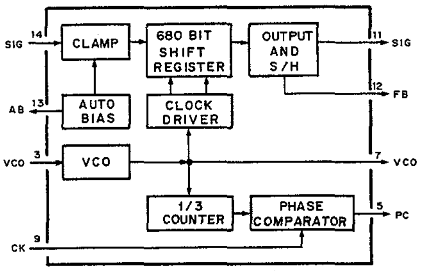

P.B AMP3 18
P.B AMP2 7
NF AMP1 OUT 8
AFM P.B (CH-1) 9
AFM REC CURRENT 4
P.B AMP1 GND 10
REC:ON
AFM P.B (CH-2) 11
NF AMP1 OUT 12
P.B AMP2 13
SP/LP MODE SELECTOR 15
P.B/REC SWITCH 5
PB:ON
6 P.B/REC SW
REC MUTE 25
DC NF 26
AFM REC RF (CH-1) 22
AFM REC RF (CH-2) 24
GAIN SELECTOR 2
AGC SIGNAL 3
P.B AMP1
P.B AMP2
P.B AMP3
H
L
20 AFM P.B RF (CH-1)
17 AFM P.B RF (CH-2)
16 SP/LP MODE SELECTOR
REC AMP
27 AFM REC (CH-1)
28 AFM REC (CH-2)
AGC DET
1 AGC CONTROL

CXL5005P (SONY)

C-MOS CCD 1H DELAY LINE FOR NTSC
– TOP VIEW –

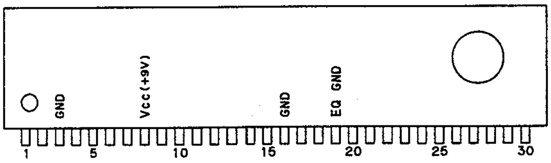

1 GND
2 VDD1 (+5V)
VCO IN 3
4 VDD2 (+9V)
PC OUT 5
6 NC
VCO OUT 7
14 SIG IN
13 AB OUT
12 FB OUT
11 SIG OUT
NC 10
9 CK IN
VDD3 (+5V) 8

AB ; AUTO BIAS DC
FB ; FEEDBACK DC
PC ; PHASE COMPARATOR
SIG ; SIGNAL

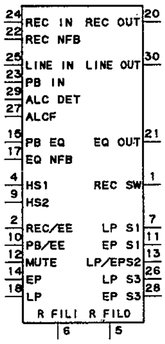

SIG 14
CLAMP
680 BIT SHIFT REGISTER
OUTPUT AND S/H
11 SIG
12 FB
AB 13
AUTO BIAS
CLOCK DRIVER
VCO 3
VCO
7 VCO
1/3 COUNTER
PHASE COMPARATOR
5 PC
CK 9

LA7297 (SANYO)

AUDIO SIGNAL REC/PB PROCESSOR
- SIDE VIEW -


GND
Vcc(+9V)
GND
EQ GND
1
5
10
15
20
25
30

PIN NO	I/O	SYMBOL	PIN NO	I/O	SYMBOL
1	O	REC SW	16	—	GND
2	I	REC/EE	17	I	EQ NFB
3	—	GND	18	I	LP
4	I	HS1	19	—	EQ GND
5	O	R FILO	20	O	REC OUT
6	I	R FILI	21	O	EQ OUT
7	O	LP S1	22	I	REC NFB
8	—	Vcc	23	I	PB IN
9	I	HS2	24	I	REC IN
10	I	PB/EE	25	I	LINE IN
11	O	EP S1	26	O	LP S3
12	I	MUTE	27	—	ALCF
13	O	LP/EP S2	28	O	EP S3
14	I	EP	29	I	ALC DET
15	I	PB EQ	30	O	LINE OUT

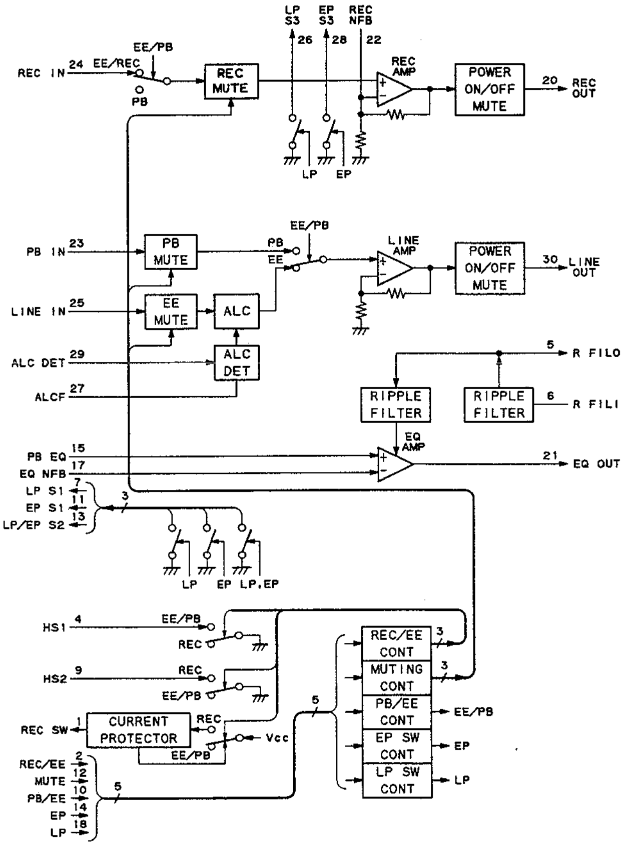

24 REC IN
22 REC NFB
25 LINE IN
23 PB IN
29 ALC DET
27 ALCF
15 PB EQ
17 EQ NFB
4 HS1
9 HS2
2 REC/EE
10 PB/EE
12 MUTE
14 EP
18 LP
REC OUT 20
LINE OUT 30
EQ OUT 21
REC SW 1
LP S1 7
EP S1 11
LP/EPS2 13
LP S3 26
EP S3 28
R FILI 6
R FILO 5

INPUT

ALC DET	;AUTO LIMITER CONTROL DETECTOR
ALCF	;AUTO LIMITER CONTROL FILTER
EP	;EP SWITCH CONTROL
EQ NFB	;PB EQUALIZED NEGATIVE FEEDBACK
HS1,2	;HEAD SWITCH 1,2
LP	;LP SWITCH CONTROL
LINE IN	;AUDIO LINE
MUTE	;MUTE SWITCH CONTROL
PB/EE	;PB/EE SWITCH CONTROL
PB EQ	;PB EQUALIZED
PB IN	;AUDIO PB LEVEL
REC/EE	;REC/EE SWITCH CONTROL
REC IN	;AUDIO REC LEVEL
REC NFB	;AUDIO REC NEGATIVE FEEDBACK
R FILI	;RIPPLE FILTER

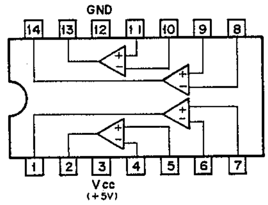
OUTPUT

EP S1-3	;EP SWITCH
EQ OUT	;PB EQUALIZED
LINE OUT	;AUDIO LINE
LP S1-3	;LP SWITCH
REC OUT	;AUDIO REC LEVEL
REC SW	;REC HEAD VOLTAGE CONTROL SWITCH
R FILO	;RIPPLE FILTER


LP S3
EP S3
REC NFB
26
28
22
EE/PB
REC IN 24
EE/REC
PB
REC MUTE
REC AMP
POWER ON/OFF MUTE
20 REC OUT
LP
EP
EE/PB
PB IN 23
PB MUTE
PB
EE
LINE AMP
POWER ON/OFF MUTE
30 LINE OUT
LINE IN 25
EE MUTE
ALC
ALC DET 29
ALC DET
ALCF 27
5 R FILO
RIPPLE FILTER
RIPPLE FILTER
6 R FILI
EQ AMP
PB EQ 15
EQ NFB 17
21 EQ OUT
LP S1 7
EP S1 11
LP/EP S2 13
3
LP
EP
LP,EP
HS1 4
EE/PB
REC
HS2 9
REC
EE/PB
REC/EE CONT
MUTING CONT
PB/EE CONT
EP SW CONT
LP SW CONT
3
3
5
EE/PB
EP
LP
REC SW 1
CURRENT PROTECTOR
REC
EE/PB
Vcc
REC/EE 2
MUTE 12
PB/EE 10
EP 14
LP 18
5

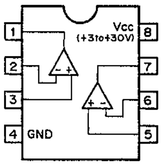
LM339N (TI)

QUAD COMPARATORS
- TOP VIEW -


GND
14
13
12
11
10
9
8
1
2
3
4
5
6
7
Vcc
(+5V)

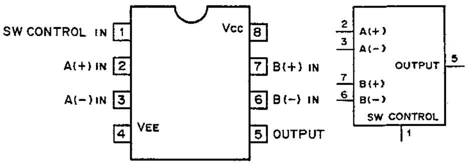
LM358P (TI)

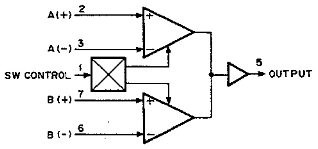
DUAL OPERATIONAL AMPLIFIERS
- TOP VIEW -


Vcc
(+3to+30V)
1
2
3
4
GND
8
7
6
5

M5201P (MITSUBISHI)

DUAL OPERATIONAL AMPLIFIERS WITH SWITCHED OUTPUT
- TOP VIEW -

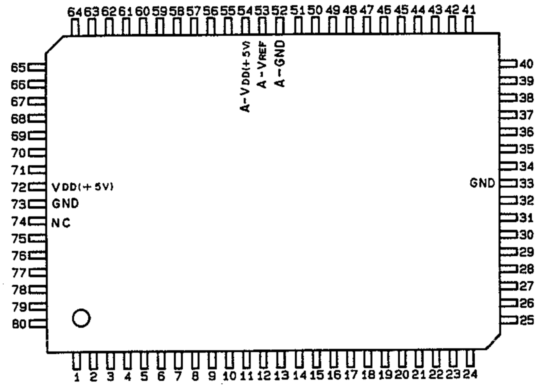

SW CONTROL IN 1
A(+) IN 2
A(−) IN 3
4 VEE
Vcc 8
7 B(+) IN
6 B(−) IN
5 OUTPUT
2 A(+)
3 A(−)
OUTPUT 5
7 B(+)
6 B(−)
SW CONTROL
1


A(+) 2
A(−) 3
SW CONTROL 1
B(+) 7
B(−) 6
5 OUTPUT

	Vcc	VEE
M5201	+15V	−15V
M5203	+18V	−18V

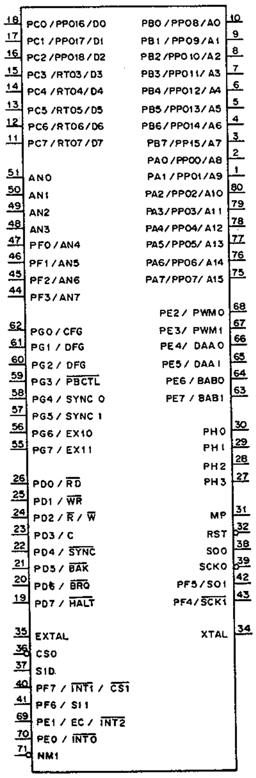
CXP80116 (SONY)

C-MOS 8-BIT MICROCOMPUTER
– TOP VIEW –


64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41
A-VDD(+5V)
A-VREF
A-GND
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
VDD(+5V)
GND
NC
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25
GND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

(V_{DD} = + 5V)

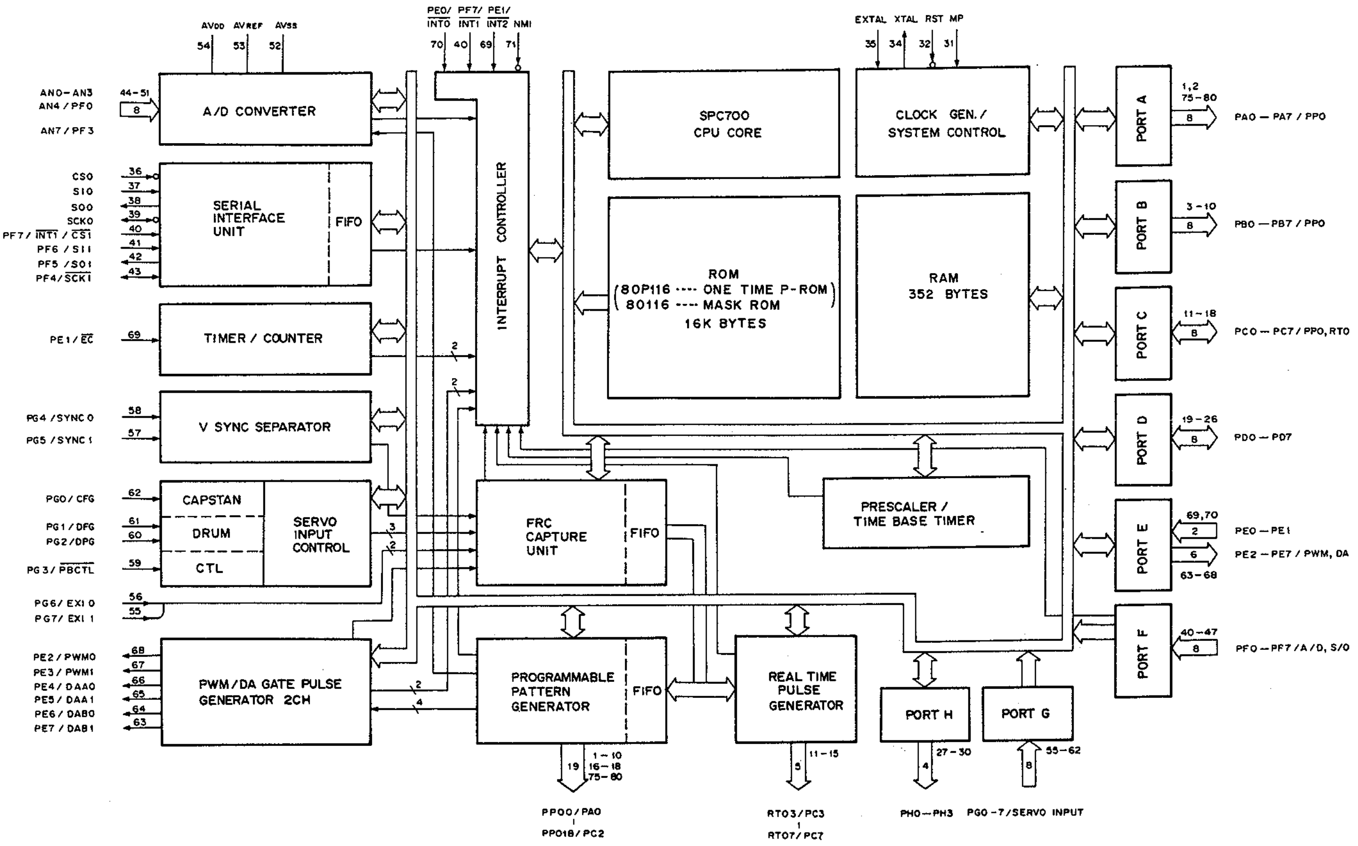
PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	O	PA1/PPO1/A9	41	I	PF6/SI1
2	O	PA0/PPO0/A8	42	I/O	PF5/SO1
3	O	PB7/PPO15/A7	43	I,I/O	PF4/$\overline{SCK1}$
4	O	PB6/PPO14/A6	44	I	PF3/AN7
5	O	PB5/PPO13/A5	45	I	PF2/AN6
6	O	PB4/PPO12/A4	46	I	PF1/AN5
7	O	PB3/PPO11/A3	47	I	PF0/AN4
8	O	PB2/PPO10/A2	48	I	AN3
9	O	PB1/PPO9/A1	49	I	AN2
10	O	PB0/PPO8/A0	50	I	AN1
11	I/O,O,I/O	PC7/RTO7/D7	51	I	AN0
12	I/O,O,I/O	PC6/RTO6/D6	52	–	A-GND
13	I/O,O,I/O	PC5/RTO5/D5	53	–	A-V_{REF}
14	I/O,O,I/O	PC4/RTO4/D4	54	–	A-V_{DD}
15	I/O,O,I/O	PC3/RTO3/D3	55	I	PG7/EXI1
16	I/O,O,I/O	PC2/PPO18/D2	56	I	PG6/EXI0
17	I/O,O,I/O	PC1/PPO17/D1	57	I	PG5/SYNC1
18	I/O,O,I/O	PC0/PPO16/D0	58	I	PG4/SYNC0
19	I/O,O	PD7/$\overline{HALT}$	59	I	PG3/$\overline{PBCTL}$
20	I/O,O	PD6/$\overline{BRQ}$	60	I	PG2/DPG
21	I/O,O	PD5/$\overline{BAK}$	61	I	PG1/DFG
22	I/O,O	PD4/$\overline{SYNC}$	62	I	PG0/CFG
23	I/O,O	PD3/C	63	O	PE7/DAB1
24	I/O,O	PD2/R/$\overline{W}$	64	O	PE6/DAB0
25	I/O,O	PD1/$\overline{WR}$	65	O	PE5/DAA1
26	I/O,O	PD0/$\overline{RD}$	66	O	PE4/DAA0
27	O	PH3	67	O	PE3/PWM1
28	O	PH2	68	O	PE2/PWM0
29	O	PH1	69	I	PE1/$\overline{EC}$/$\overline{INT2}$
30	O	PH0	70	I	PE0/$\overline{INT0}$
31	I	MP	71	I	$\overline{NMI}$
32	I/O	RST	72	–	V_{DD}
33	–	GND	73	–	GND
34	O	XTAL	74	–	NC
35	I	EXTAL	75	O	PA7/PPO7/A15
36	I	CS0	76	O	PA6/PPO6/A14
37	I	SI0	77	O	PA5/PPO5/A13
38	O	SO0	78	O	PA4/PPO4/A12
39	I/O	SCK0	·79	O	PA3/PPO3/A11
40	I	PF7/$\overline{INT1}$/$\overline{CS1}$	80	O	PA2/PPO2/A10


18 PC0/PPO16/D0
17 PC1/PPO17/D1
16 PC2/PPO18/D2
15 PC3/RTO3/D3
14 PC4/RTO4/D4
13 PC5/RTO5/D5
12 PC6/RTO6/D6
11 PC7/RTO7/D7
51 AN0
50 AN1
49 AN2
48 AN3
47 PF0/AN4
46 PF1/AN5
45 PF2/AN6
44 PF3/AN7
62 PG0/CFG
61 PG1/DFG
60 PG2/DFG
59 PG3/$\overline{PBCTL}$
58 PG4/SYNC 0
57 PG5/SYNC 1
56 PG6/EX10
55 PG7/EX11
26 PD0/$\overline{RD}$
25 PD1/$\overline{WR}$
24 PD2/$\overline{R}$/$\overline{W}$
23 PD3/C
22 PD4/$\overline{SYNC}$
21 PD5/$\overline{BAK}$
20 PD6/$\overline{BRQ}$
19 PD7/$\overline{HALT}$
35 EXTAL
36 CS0
37 S1D
40 PF7/$\overline{INT1}$/$\overline{CS1}$
41 PF6/SI1
69 PE1/EC/$\overline{INT2}$
70 PE0/$\overline{INT0}$
71 NM1
PB0/PPO8/A0 10
PB1/PPO9/A1 9
PB2/PPO10/A2 8
PB3/PPO11/A3 7
PB4/PPO12/A4 6
PB5/PPO13/A5 5
PB6/PPO14/A6 4
PB7/PP15/A7 3
PA0/PPO0/A8 2
PA1/PPO1/A9 1
PA2/PPO2/A10 80
PA3/PPO3/A11 79
PA4/PPO4/A12 78
PA5/PPO5/A13 77
PA6/PPO6/A14 76
PA7/PPO7/A15 75
PE2/PWM0 68
PE3/PWM1 67
PE4/DAA0 66
PE5/DAA1 65
PE6/BAB0 64
PE7/BAB1 63
PH0 30
PH1 29
PH2 28
PH3 27
MP 31
RST 32
SO0 38
SCK0 39
PF5/SO1 42
PF4/$\overline{SCK1}$ 43
XTAL 34

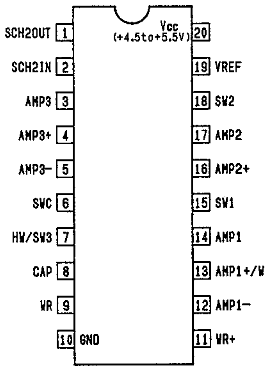
INPUT
AN0 – AN7 : ANALOG INPUTS
BRQ : BUS REQUEST INPUT
CFG : CAPSTAN FG INPUT
CS0.1 : CHIP SELECT INPUTS
DFG : DRUM FG INPUT
DPG : DRUM PG INPUT
EC : EVENT INPUT
EXI0.1 : EXTERNAL INPUTS
EXTAL : SYSTEM CLOCK GENERATE JOINT
HALT : CPU STOP INPUT
INT0 – INT2 : EXTERNAL OFFERING INPUTS
MP : MICRO PROSESSOR MODE INPUT
NMI : NONMASKABLE OFFERING INPUT
PBCTL : PB CTL PULSE INPUT
PE0.1 : PORT E INPUTS
PF0 – PF7 : PORT F INPUTS
PG0 – PG7 : PORT G INPUTS
SI0.1 : SERIAL DATA INPUTS
SYNC0.1 : COMPOSITE SYNC INPUTS

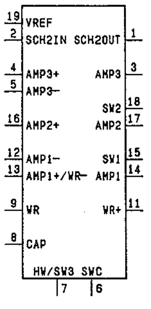
OUTPUT
A0 – A15 : ADDRESS BUS OUTPUTS
BAK : BUS ACKNOWLEGE OUTPUT
C : TIMING SIGNAL OUTPUT
DAA0.1 : DA GATE PULSE OUTPUTS
DAB0.1 : DA GATE PULSE OUTPUTS
PA0 – PA7 : PORT A OUTPUTS
PB0 – PB7 : PORT B OUTPUTS
PE2 – PE7 : PORT E OUTPUTS
PH0 – PH3 : PORT H OUTPUTS
PPO0 – PPO18 : PROGRAMMABLE PATTERN GENERATOR OUTPUTS
PWM0.1 : PWM OUTPUTS
R/W : CPU MACHINE SYCLE
RD : READ
RTO3 – RTO7 : REAL TIME PULSE OUTPUTS
SO0.1 : SERIAL DATA OUTPUTS
SYNC : SYNC
WR : WRITE
XTAL : SYSTEM CLOCK GENERATER OUTPUT

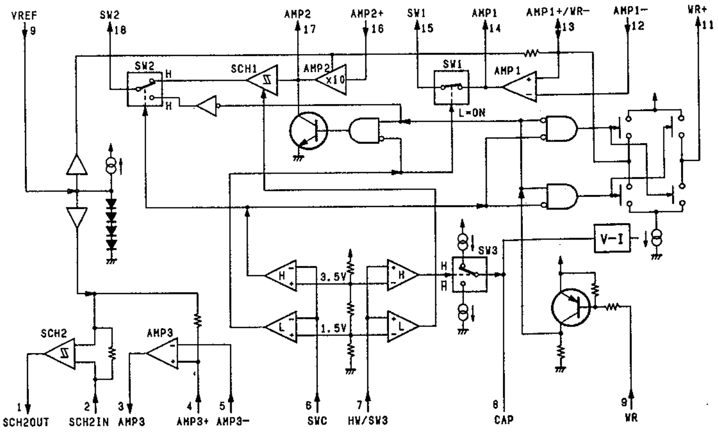
INPUT/OUTPUT
D0 – D7 : DATA BUS
PC0 – PC7 : PORT C
PD0 – PD7 : PORT D
RST : RESET
SCK0.1 : SERIAL CLOCK


AVDD AVREF AVSS
54 53 52
PE0/INT0 PF7/INT1 PE1/INT2 NMI
70 40 69 71
EXTAL XTAL RST MP
35 34 32 31
AN0–AN3 44–51
AN4/PF0 8
AN7/PF3
A/D CONVERTER
CS0 36
SI0 37
SO0 38
SCK0 39
PF7/INT1/CS1 40
PF6/SI1 41
PF5/SO1 42
PF4/SCK1 43
SERIAL INTERFACE UNIT
FIFO
PE1/EC 69
TIMER / COUNTER
PG4/SYNC0 58
PG5/SYNC1 57
V SYNC SEPARATOR
PG0/CFG 62
PG1/DFG 61
PG2/DPG 60
PG3/PBCTL 59
CAPSTAN
DRUM
CTL
SERVO INPUT CONTROL
PG6/EXI0 56
PG7/EXI1 55
PE2/PWM0 68
PE3/PWM1 67
PE4/DAA0 66
PE5/DAA1 65
PE6/DAB0 64
PE7/DAB1 63
PWM/DA GATE PULSE GENERATOR 2CH
INTERRUPT CONTROLLER
SPC700 CPU CORE
ROM
(80P116 ---- ONE TIME P-ROM)
(80116 ---- MASK ROM)
16K BYTES
CLOCK GEN./ SYSTEM CONTROL
RAM 352 BYTES
FRC CAPTURE UNIT
FIFO
PRESCALER / TIME BASE TIMER
PROGRAMMABLE PATTERN GENERATOR
FIFO
REAL TIME PULSE GENERATOR
PORT H
PORT G
PORT A
PORT B
PORT C
PORT D
PORT E
PORT F
1,2 75–80 8
PA0 – PA7 / PP0
3–10 8
PB0 – PB7 / PP0
11–18 8
PC0 – PC7 / PP0, RT0
19–26 8
PD0 – PD7
69,70 2
PE0 – PE1
6 63–68
PE2 – PE7 / PWM, DA
40–47 8
PF0 – PF7 / A/D, S/O
19 1–10 16–18 75–80
PP00/PA0 I PP018/PC2
5 11–15
RT03/PC3 I RT07/PC7
4 27–30
PH0 – PH3
8 55–62
PG0 – 7/SERVO INPUT
2
3
4

M52435P (MITSUBISHI)
VTR DIGITAL SERVO INTERFACE
– TOP VIEW –


SCH2OUT 1
SCH2IN 2
AMP3 3
AMP3+ 4
AMP3– 5
SWC 6
HW/SW3 7
CAP 8
WR 9
10 GND
Vcc (+4.5to+5.5V) 20
19 VREF
18 SW2
17 AMP2
16 AMP2+
15 SW1
14 AMP1
13 AMP1+/WR–
12 AMP1–
11 WR+

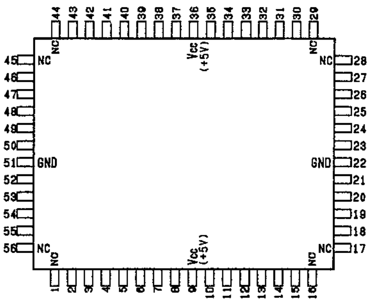

19 VREF
2 SCH2IN
SCH2OUT 1
4 AMP3+
5 AMP3–
AMP3 3
SW2 18
16 AMP2+
AMP2 17
12 AMP1–
13 AMP1+/WR–
SW1 15
AMP1 14
9 WR
WR+ 11
8 CAP
HW/SW3 SWC
7 6


VREF 9
SW2 18
AMP2 17
AMP2+ 16
SW1 15
AMP1 14
AMP1+/WR– 13
AMP1– 12
WR+ 11
SW2
H
H
SCH1
AMP2
x10
SW1
L=ON
AMP1
V-I
SW3
H
H
3.5V
1.5V
H
H
L
L
SCH2
AMP3
1 SCH2OUT
2 SCH2IN
3 AMP3
4 AMP3+
5 AMP3–
6 SWC
7 HW/SW3
8 CAP
9 WR

AMP1	;	AMP.1 OUTPUT
AMP1+/WR–	;	AMP.1 NON-INVERTING INPUT/NEGATIVE WRITE OUTPUT
AMP1–	;	AMP.1 INVERTING INPUT
AMP2	;	AMP.2 OUTPUT (x10)
AMP2+	;	AMP.2 INPUT
AMP3	;	AMP.3 OUTPUT
AMP3+	;	AMP.3 NON-INVERTING INPUT
AMP3–	;	AMP.3 INVERTING INPUT
CAP	;	CAPASITOR CONNECTING TERMINAL FOR V-I CONVERTER
HW/SW3	;	HYSTERESIS WIDTH SELECT INPUT FOR SCHMITT 1 / TRIGGER INPUT FOR SWITCH 3(TRAPEZOID WAVE GENERATE)
SCH2IN	;	SCHMITT 2 INPUT
SCH2OUT	;	SCHMITT 2 OUTPUT
SW1	;	SWITCH 1 OUTPUT
SW2	;	SWITCH 2 OUTPUT
SWC	;	SWCTHES 1 AND 2 CONTROL INPUT (REC/PLAYBAK SWICTHOVER)
VREF	;	REFERANCE VOLTAGE INPUT
WR	;	WRITE SIGNAL INPUT
WR+	;	POSITIVE WRITE OUTPUT

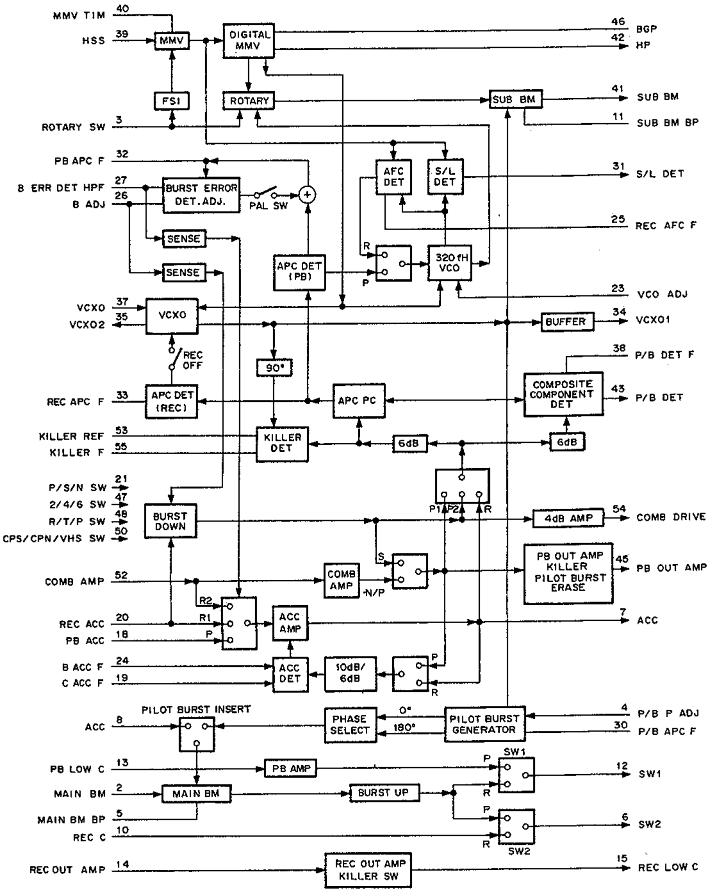
M52059AFP (MITSUBISHI)

CHROMA SIGNAL PROCESSOR FOR VHS VTR
- TOP VIEW -


44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29
45 46 47 48 49 50 51 52 53 54 55 56
28 27 26 25 24 23 22 21 20 19 18 17
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
NC
Vcc (+5V)
GND
NC

(Vcc = + 5V)

PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	–	NC	20	I	REC ACC	39	I	HSS
2	I	MAIN BM	21	I	P/S/N SW	40	–	MMV TIM
3	I	ROTARY SW	22	–	GND	41	O	SUB BM
4	I	P/B P ADJ	23	I	VCO ADJ	42	O	HP
5	I	MAIN BM BP	24	–	B ACC F	43	O	P/B DET
6	O	SW2	25	–	REC AFC F	44	–	NC
7	O	ACC	26	I	B ADJ	45	–	NC
8	I	ACC	27	–	B ERR DET HPF	46	O	BGP
9	–	Vcc	28	–	NC	47	I	2/4/6 SW
10	I	REC C	29	–	NC	48	I	R/T/P SW
11	I	SUB BM BP	30	I	P/B G ADJ	49	O	PB OUT AMP
12	O	SW1	31	O	S/L DET	50	I	CPS/CPN/VHS SW
13	I	PB LOW C	32	–	PB APC F	51	–	GND
14	I	REC OUT AMP	33	–	REC APC F	52	I	COMB AMP
15	O	REC LOW C	34	O	VCXO 1	53	–	KILLER REF
16	–	NC	35	O	VCXO 2	54	O	COMB DRIVE
17	–	NC	36	–	Vcc	55	–	KILLER F
18	I	PB ACC	37	I	VCXO	56	–	NC
19	–	C ACC F	38	–	P/B DET F			


MMV TIM 40
HSS 39
MMV
DIGITAL MMV
FSI
ROTARY
ROTARY SW 3
46 BGP
42 HP
SUB BM
41 SUB BM
11 SUB BM BP
PB APC F 32
B ERR DET HPF 27
B ADJ 26
BURST ERROR DET.ADJ.
PAL SW
+
AFC DET
S/L DET
31 S/L DET
25 REC AFC F
SENSE
SENSE
APC DET (PB)
R
P
320 fH VCO
23 VCO ADJ
VCXO 37
VCXO2 35
VCXO
BUFFER
34 VCXO1
REC OFF
90°
38 P/B DET F
REC APC F 33
APC DET (REC)
APC PC
COMPOSITE COMPONENT DET
43 P/B DET
KILLER REF 53
KILLER F 55
KILLER DET
6dB
6dB
P/S/N SW 21
2/4/6 SW 47
R/T/P SW 48
CPS/CPN/VHS SW 50
BURST DOWN
P1 P2 R
4dB AMP
54 COMB DRIVE
S
COMB AMP 52
COMB AMP
N/P
PB OUT AMP KILLER PILOT BURST ERASE
45 PB OUT AMP
R2
R1
P
REC ACC 20
PB ACC 18
ACC AMP
7 ACC
B ACC F 24
C ACC F 19
ACC DET
10dB/ 6dB
P
R
PILOT BURST INSERT
ACC 8
PHASE SELECT
0°
180°
PILOT BURST GENERATOR
4 P/B P ADJ
30 P/B APC F
PB LOW C 13
PB AMP
SW1
P
R
12 SW1
MAIN BM 2
MAIN BM
BURST UP
MAIN BM BP 5
REC C 10
P
R
SW2
6 SW2
REC OUT AMP 14
REC OUT AMP KILLER SW
15 REC LOW C

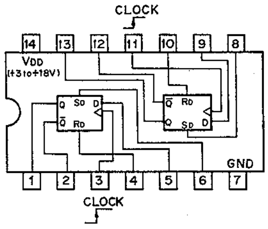
INPUT
2/4/6 SW ; 2H/4H/6H SWITCH CONTROL
ACC ; ACC OUTPUT
B ADJ ; BURST ADJUST
COMB AMP ; COMB AMPLIFIER
CPS/CPN/VHS SW ; COMPSITE/COMPONENT/VHS SWITCH CONTROL
HSS ; HORIZONTAL SYNC SIGNAL
MAIN BM ; MAIN BALANCED MODULATOR
MAIN BM BP ; MAIN BALANCED MODULATOR BYPASS CONTROL
P/B G ADJ ; PILOT BURST GAIN ADJUST
P/B P ADJ ; PILOT BURST PHASE ADJUST
P/S/N SW ; PAL/SECAM/NTSC SWITCH CONTROL
PB ACC ; AUTOMATIC COLOR CONTROL AMPLIFIER FOR PB
PB LOW C ; PB LOW RESONANCE CHROMA
R/T/P SW ; REC/TRICK/PB SWITCH CONTROL
REC ACC ; AUTOMATIC COLOR CONTROL AMPLIFIER FOR REC
REC C ; REC CHROMA SIGNAL
REC OUT AMP ; REC SIGNAL OUTPUT AMPLIFIER
ROTARY SW ; ROTATION SWITCH CONTROL
SUB BM BP ; SUB BALANCED MODULATOR BYPASS CONTROL
VCO ADJ ; 320 fH VCO ADJUST
VCXO ; VOLTAGE CONTROLED CRYSTAL OSCILLATOR

OUTPUT
ACC ; AUTOMATIC COLOR CONTROL AMPLIFITER
BGP ; BURST GATE PULSE
COMB DRIVE ; COMB DRIVE
HP ; HORIZONTAL PULSE
P/B DET ; PILOT BURST DETECTTION
PB OUT AMP ; PB SIGNAL OUTPUT AMPLIFIER
REC LOW C ; REC LOW RESONANCE CHROMA
S/L DET ; SIDE LOCK DETECTION
SUB BM ; SUB BALANCED MODULATOR
SW1 ; SWITCH 1
SW2 ; SWITCH 2
VCXO 1 ; BUFFERED VCXO
VCXO 2 ; VOLTAGE CONTROLED CRYSTAL OSCILLATOR

OTHER
B ACC F ; AUTOMATIC COLOR CONTROL FILTER FOR BURST
B ERR DET HPF ; BURST ERROR DETECT HIGH-PASS FILTER
C ACC F ; AUTOMATIC COLOR CONTROL FILTER FOR CHROMA
KILLER F ; COLOR KILLER FILTER
KILLER REF ; COLOR KILLER REFERENCE FILTER
MMV TIM ; MONOSTABLE MULTIVIBRATOR TIMING TIME CONSTANT
P/B DET F ; PILOT BURST DETECTION FILTER
PB APC F ; AUTOMATIC FREQUENCY CONTROL FILTER FOR PB
REC AFC F ; AUTOMATIC FREQUENCY CONTROL FILTER FOR REC
REC APC F ; AUTOMATIC PHASE CONTROL FILTER FOR REC

MC14013BCP (MOTOROLA)

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET
- TOP VIEW -


CLOCK
14 13 12 11 10 9 8
VDD (+3 to +18V)
Q SD D
Q̄ RD
Q̄ RD
Q SD D
GND
1 2 3 4 5 6 7
CLOCK

DIRECT R-S FLIP-FLOP

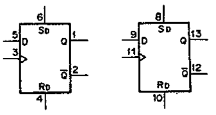
SD	RD	Q	Q̄
0	0	Qn	Q̄n
0	1	0	1
1	0	1	0
1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

D-TYPE FLIP-FLOP

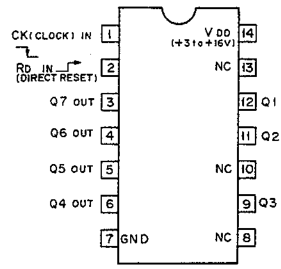
CKn	CKn+1
D	Q
0	0
1	1

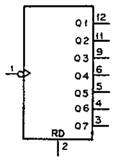
CLOCK CK; ⎍
CKn ; BEFORE CLOCK
CKn+1 ; AFTER CLOCK


6
SD
5 D
3
Q 1
Q̄ 2
RD
4
8
SD
9 D
11
Q 13
Q̄ 12
RD
10

MC14024BCP (MOTOROLA)

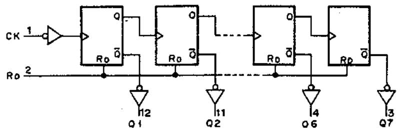
C-MOS ASYNCHRONOUS 7-BIT BINARY COUNTER
- TOP VIEW -


CK (CLOCK) IN 1
RD IN (DIRECT RESET) 2
Q7 OUT 3
Q6 OUT 4
Q5 OUT 5
Q4 OUT 6
7 GND
VDD (+3 to +16V) 14
NC 13
12 Q1 OUT
11 Q2 OUT
NC 10
9 Q3 OUT
NC 8


1
Q1 12
Q2 11
Q3 9
Q4 6
Q5 5
Q6 4
Q7 3
RD
2

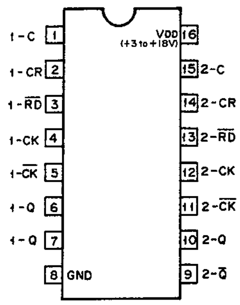
COUNT	INPUTS		OUTPUTS						
	CK	RD	Q7	Q6	Q5	Q4	Q3	Q2	Q1
0	X	1	0	0	0	0	0	0	0
1	↓	0	0	0	0	0	0	0	1
2	↓	0	0	0	0	0	0	1	0
3	↓	0	0	0	0	0	0	1	1
4	↓	0	0	0	0	0	1	0	0
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
125	↓	0	1	1	1	1	1	0	1
126	↓	0	1	1	1	1	1	1	0
127	↓	0	1	1	1	1	1	1	1
—	0	0	NO CHANGE						
—	1	0							

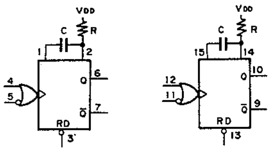
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE


CK 1
RD 2
Q
Q̄
RD
12 Q1
11 Q2
4 Q6
3 Q7

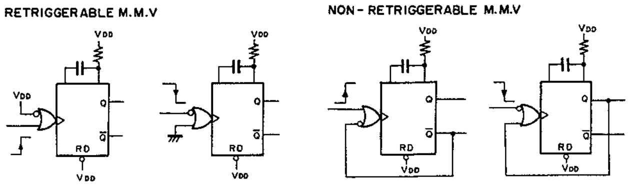
MC14538BCP (MOTOROLA)

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATORS
- TOP VIEW -


1-C 1
1-CR 2
1-R̄D 3
1-CK 4
1-C̄K 5
1-Q 6
1-Q̄ 7
8 GND
VDD (+3 to +18V) 16
15 2-C
14 2-CR
13 2-R̄D
12 2-CK
11 2-C̄K
10 2-Q
9 2-Q̄

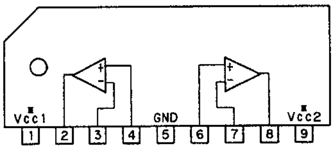

VDD
C
R
1
2
4
5
Q 6
Q̄ 7
RD
3
15
14
12
11
Q 10
Q̄ 9
13

OUTPUT PULSE WIDTH = C·R


RETRIGGERABLE M.M.V
NON-RETRIGGERABLE M.M.V
VDD
Q
Q̄
RD

NJM2903S (JRC)

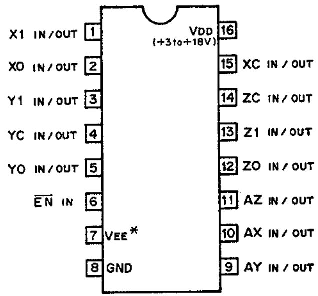
DUAL COMPARATER
- SIDE VIEW -


Vcc1*
GND
Vcc2*
1
2
3
4
5
6
7
8
9

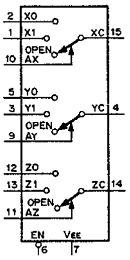
*Vcc1=Vcc2=+36V MAX

MC14053BCP (MOTOROLA)

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS
- TOP VIEW -


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT

VEE*; VDD−VEE = +3 to +18V

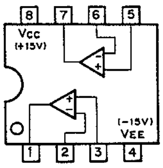

2 X0
1 X1
OPEN
10 AX
XC 15
5 Y0
3 Y1
OPEN
9 AY
YC 4
12 Z0
13 Z1
OPEN
11 AZ
ZC 14
EN 6
VEE 7

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

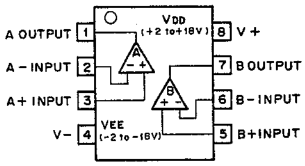
NJM4558D (JRC)
NJM4560D (JRC)

DUAL OPERATIONAL AMPLIFIER
- TOP VIEW -

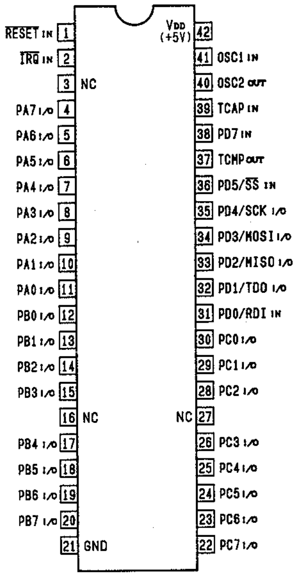

8
7
6
5
Vcc (+15V)
(−15V) VEE
1
2
3
4

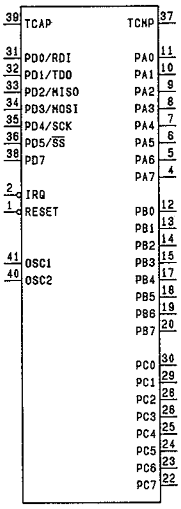
NJM4580D (JRC)
NJM4580E (JRC) FLAT PACKAGE

OPERATIONAL AMPLIFIER
- TOP VIEW -


A OUTPUT 1
A − INPUT 2
A+ INPUT 3
V− 4
VDD (+2 to +18V) 8 V+
7 B OUTPUT
6 B − INPUT
5 B+INPUT
VEE (−2 to −18V)
A
B

MC68HC05C8B (MOTOROLA)
C-MOS 8-BIT MICROCONTROLLER UNIT
- TOP VIEW -

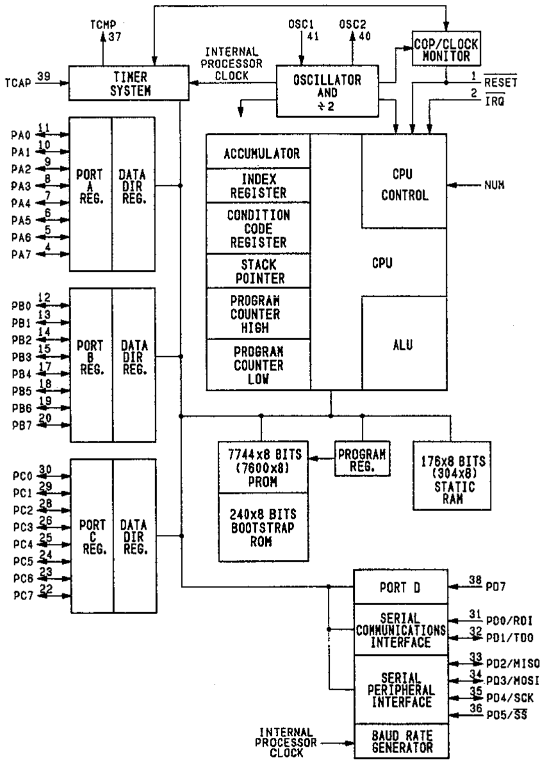

RESET IN 1
IRQ IN 2
3 NC
PA7 I/O 4
PA6 I/O 5
PA5 I/O 6
PA4 I/O 7
PA3 I/O 8
PA2 I/O 9
PA1 I/O 10
PA0 I/O 11
PB0 I/O 12
PB1 I/O 13
PB2 I/O 14
PB3 I/O 15
16 NC
PB4 I/O 17
PB5 I/O 18
PB6 I/O 19
PB7 I/O 20
21 GND
VDD (+5V) 42
41 OSC1 IN
40 OSC2 OUT
39 TCAP IN
38 PD7 IN
37 TCMP OUT
36 PD5/SS IN
35 PD4/SCK I/O
34 PD3/MOSI I/O
33 PD2/MISO I/O
32 PD1/TDO I/O
31 PD0/RDI IN
30 PC0 I/O
29 PC1 I/O
28 PC2 I/O
NC 27
26 PC3 I/O
25 PC4 I/O
24 PC5 I/O
23 PC6 I/O
22 PC7 I/O


39 TCAP
TCMP 37
31 PD0/RDI
32 PD1/TDO
33 PD2/MISO
34 PD3/MOSI
35 PD4/SCK
36 PD5/SS
38 PD7
2 IRQ
1 RESET
41 OSC1
40 OSC2
PA0 11
PA1 10
PA2 9
PA3 8
PA4 7
PA5 6
PA6 5
PA7 4
PB0 12
PB1 13
PB2 14
PB3 15
PB4 17
PB5 18
PB6 19
PB7 20
PC0 30
PC1 29
PC2 28
PC3 26
PC4 25
PC5 24
PC6 23
PC7 22

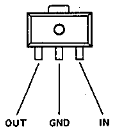
INPUT
IRQ ; INTERRUPT REQUEST
OSC1 ; OSCILLATOR FREQUENCY
PD0 – PD5, PD7 ; PROGRAMMABLE D PORT
RDI ; RECEIVING DATA
RESET ; RESET
SS ; SUB SELECT
TCAP ; CAPTURE FEATURE FOR THE ON-CHIP PROGRAMMABLE TIMER

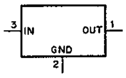
OUTPUT
OSC2 ; OSCILLATOR FREQUENCY
SCK ; SERIAL CLOCK
TCMP ; COMPARE FEATURE OF THE ON-CHIP TIMER
TDO ; TRANSMITION DATA

INPUT/OUTPUT
MISO ; MASTER INPUT, SUB OUTPUT
MOSI ; MASTER OUTPUT, SUB INPUT
PA0 – PA7 ; PROGRAMMABLE A PORT
PB0 – PB7 ; PROGRAMMABLE B PORT
PC0 – PC7 ; PROGRAMMABLE C PORT

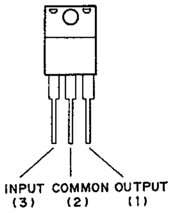

TCMP 37
TCAP 39
TIMER SYSTEM
INTERNAL PROCESSOR CLOCK
OSC1 41
OSC2 40
OSCILLATOR AND ÷2
COP/CLOCK MONITOR
1 RESET
2 IRQ
ACCUMULATOR
INDEX REGISTER
CONDITION CODE REGISTER
STACK POINTER
PROGRAM COUNTER HIGH
PROGRAM COUNTER LOW
CPU CONTROL
NUM
CPU
ALU
PA0 11
PA1 10
PA2 9
PA3 8
PA4 7
PA5 6
PA6 5
PA7 4
PORT A REG.
DATA DIR REG.
PB0 12
PB1 13
PB2 14
PB3 15
PB4 17
PB5 18
PB6 19
PB7 20
PORT B REG.
DATA DIR REG.
PC0 30
PC1 29
PC2 28
PC3 26
PC4 25
PC5 24
PC6 23
PC7 22
PORT C REG.
DATA DIR REG.
7744x8 BITS (7600x8) PROM
PROGRAM REG.
176x8 BITS (304x8) STATIC RAM
240x8 BITS BOOTSTRAP ROM
PORT D
38 PD7
SERIAL COMMUNICATIONS INTERFACE
31 PD0/RDI
32 PD1/TDO
SERIAL PERIPHERAL INTERFACE
33 PD2/MISO
34 PD3/MOSI
35 PD4/SCK
36 PD5/SS
INTERNAL PROCESSOR CLOCK
BAUD RATE GENERATOR

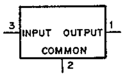
NJM78L09UA (JRC) +9 V
POSITIVE VOLTAGE REGULATOR (350 mW)
- SIDE VIEW -



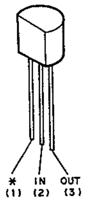

3 IN
OUT 1
GND
2

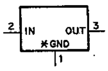
NJM78M09FA (JRC) +9V
POSITIVE VOLTAGE REGULATOR (500mA)
- FRONT VIEW -


INPUT (3)
COMMON (2)
OUTPUT (1)


3 INPUT
OUTPUT 1
COMMON
2

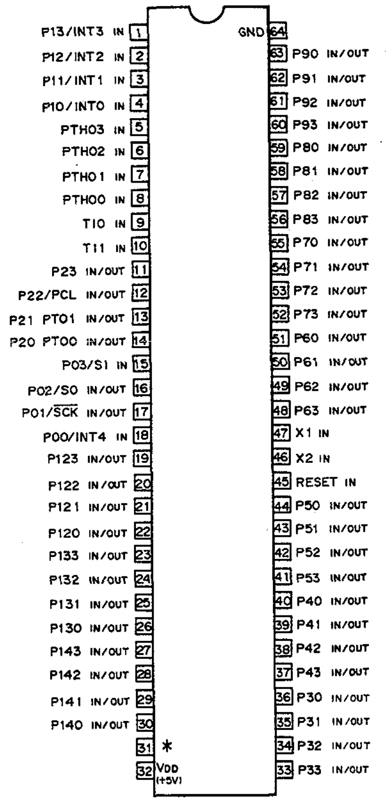
S-80250AG (SEIKO I AND E) −5V
C-MOS VOLTAGE REGULATOR

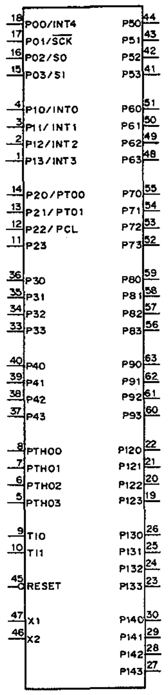



2 IN
OUT 3
*GND
1

* S-802PP→VDD
S-812PP→Vss

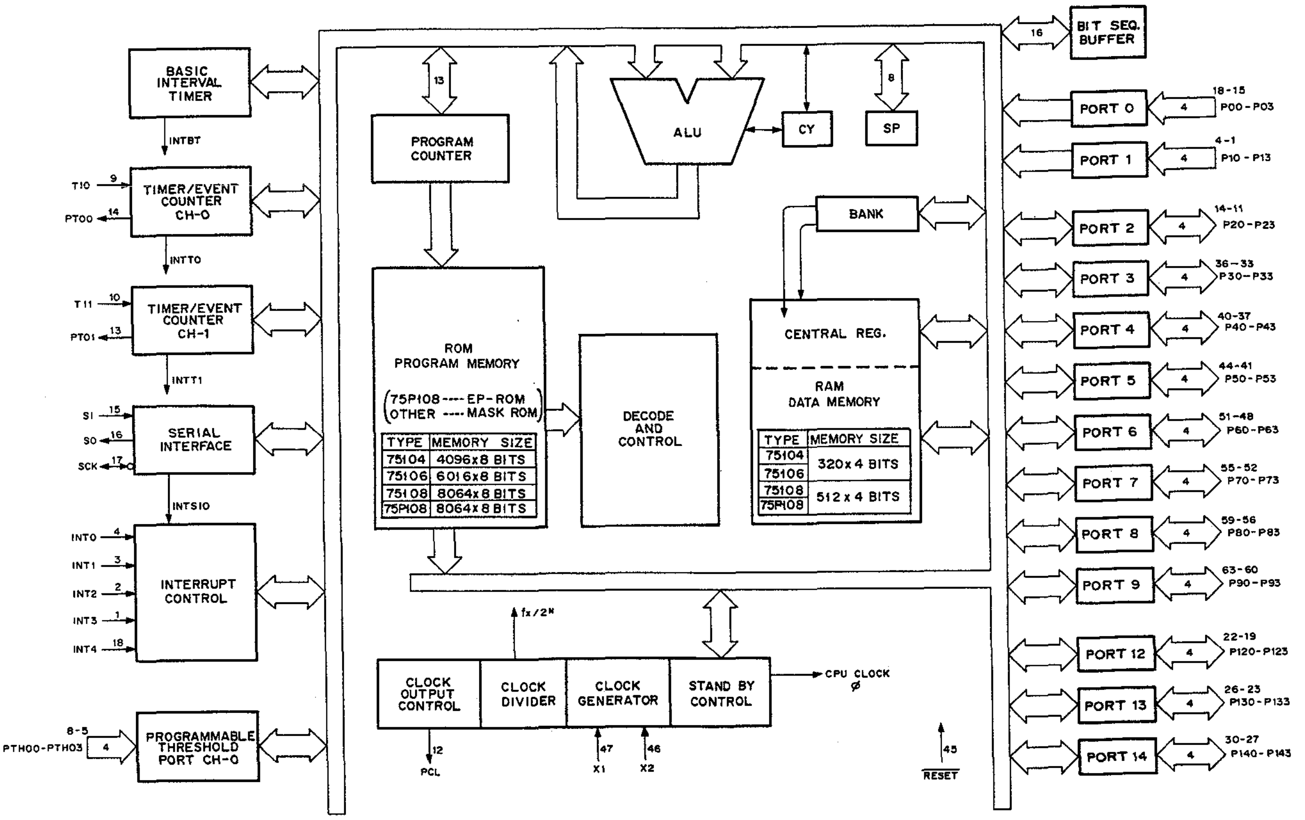
UPD75106CW (NEC)
C-MOS 1 CHIP 4-BIT MICROCOMPUTER
– TOP VIEW –


P13/INT3 IN 1
P12/INT2 IN 2
P11/INT1 IN 3
P10/INT0 IN 4
PTH03 IN 5
PTH02 IN 6
PTH01 IN 7
PTH00 IN 8
TI0 IN 9
TI1 IN 10
P23 IN/OUT 11
P22/PCL IN/OUT 12
P21 PTO1 IN/OUT 13
P20 PTO0 IN/OUT 14
P03/SI IN 15
P02/SO IN/OUT 16
P01/SCK IN/OUT 17
P00/INT4 IN 18
P123 IN/OUT 19
P122 IN/OUT 20
P121 IN/OUT 21
P120 IN/OUT 22
P133 IN/OUT 23
P132 IN/OUT 24
P131 IN/OUT 25
P130 IN/OUT 26
P143 IN/OUT 27
P142 IN/OUT 28
P141 IN/OUT 29
P140 IN/OUT 30
31 *
32 VDD (+5V)
GND 64
63 P90 IN/OUT
62 P91 IN/OUT
61 P92 IN/OUT
60 P93 IN/OUT
59 P80 IN/OUT
58 P81 IN/OUT
57 P82 IN/OUT
56 P83 IN/OUT
55 P70 IN/OUT
54 P71 IN/OUT
53 P72 IN/OUT
52 P73 IN/OUT
51 P60 IN/OUT
50 P61 IN/OUT
49 P62 IN/OUT
48 P63 IN/OUT
47 X1 IN
46 X2 IN
45 RESET IN
44 P50 IN/OUT
43 P51 IN/OUT
42 P52 IN/OUT
41 P53 IN/OUT
40 P40 IN/OUT
39 P41 IN/OUT
38 P42 IN/OUT
37 P43 IN/OUT
36 P30 IN/OUT
35 P31 IN/OUT
34 P32 IN/OUT
33 P33 IN/OUT


18 P00/INT4
17 P01/SCK
16 P02/SO
15 P03/SI
4 P10/INT0
3 P11/INT1
2 P12/INT2
1 P13/INT3
14 P20/PTO0
13 P21/PTO1
12 P22/PCL
11 P23
36 P30
35 P31
34 P32
33 P33
40 P40
39 P41
38 P42
37 P43
8 PTH00
7 PTH01
6 PTH02
5 PTH03
9 TI0
10 TI1
45 RESET
47 X1
46 X2
P50 44
P51 43
P52 42
P53 41
P60 51
P61 50
P62 49
P63 48
P70 55
P71 54
P72 53
P73 52
P80 59
P81 58
P82 57
P83 56
P90 63
P91 62
P92 61
P93 60
P120 22
P121 21
P122 20
P123 19
P130 26
P131 25
P132 24
P133 23
P140 30
P141 29
P142 28
P143 27

INT0 – INT4 ; INTERRUPT INPUTS
P00 – P03 ; 4-BIT INPUT PORT (PORT0)
P10 – P13 ; 4-BIT INPUT PORT (PORT1)
P20 – P23 ; 4-BIT I/O PORT (PORT2)
P30 – P33 ; 4-BIT I/O PORT (PORT3), PROGRAMMABLE
P40 – P43 ; 4-BIT I/O PORT (PORT4)
P50 – P53 ; 4-BIT I/O PORT (PORT5)
P60 – P63 ; 4-BIT I/O PORT (PORT6), PROGRAMMABLE
P70 – P73 ; 4-BIT I/O PORT (PORT7)
P80 – P83 ; 4-BIT I/O PORT (PORT8)
P90 – P93 ; 4-BIT I/O PORT (PORT9)
P120 – P123 ; 4-BIT I/O PORT (PORT12), OPEN DRAIN
P130 – P133 ; 4-BIT I/O PORT (PORT13), OPEN DRAIN
P140 – P143 ; 4-BIT I/O PORT (PORT14), OPEN DRAIN
PCL ; CLOCK OUTPUT, PROGRAMABLE
PTH00 – PTH03 ; THRESHOLD 4-BIT ANALOG INPUT PORT, PROGRAMABLE
PTO0 ; TIMER/EVENT COUNTER OUTPUT (CH-1)
PTO1 ; TIMER/EVENT COUNTER OUTPUT (CH-2)
RESET ; SYSTEM RESET INPUT
SI ; SERIAL INTERFACE DATA INPUT
SO ; SERIAL INTERFACE DATA OUTPUT
SCK ; SERIAL INTERFACE CLOCK INPUT/OUTPUT
TI0 ; TIMER/EVENT COUNTER CLOCK INPUT (CH-0)
TI1 ; TIMER/EVENT COUNTER CLOCK INPUT (CH-1)
X1, X2 ; CONNECTED CRYSTAL FOR SYSTEM CLOCK GENERATE

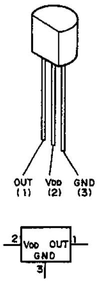
*; PIN31
Vpp(+5V) ; 75P108 TYPE
NC ; OTHER TYPES


BASIC INTERVAL TIMER
INTBT
TI0 9
PT00 14
TIMER/EVENT COUNTER CH-0
INTT0
TI1 10
PT01 13
TIMER/EVENT COUNTER CH-1
INTT1
SI 15
SO 16
SCK 17
SERIAL INTERFACE
INTSIO
INT0 4
INT1 3
INT2 2
INT3 1
INT4 18
INTERRUPT CONTROL
8-5
PTH00-PTH03
4
PROGRAMMABLE THRESHOLD PORT CH-0
13
PROGRAM COUNTER
ALU
CY
SP
8
BANK
ROM PROGRAM MEMORY
(75P108 ---- EP-ROM
OTHER ---- MASK ROM)
DECODE AND CONTROL
CENTRAL REG.
RAM DATA MEMORY
fx/2ᴺ
CLOCK OUTPUT CONTROL
CLOCK DIVIDER
CLOCK GENERATOR
STAND BY CONTROL
CPU CLOCK Φ
12 PCL
47 X1
46 X2
45 RESET
16
BIT SEQ. BUFFER
PORT 0 4 18-15 P00-P03
PORT 1 4 4-1 P10-P13
PORT 2 4 14-11 P20-P23
PORT 3 4 36-33 P30-P33
PORT 4 4 40-37 P40-P43
PORT 5 4 44-41 P50-P53
PORT 6 4 51-48 P60-P63
PORT 7 4 55-52 P70-P73
PORT 8 4 59-56 P80-P83
PORT 9 4 63-60 P90-P93
PORT 12 4 22-19 P120-P123
PORT 13 4 26-23 P130-P133
PORT 14 4 30-27 P140-P143

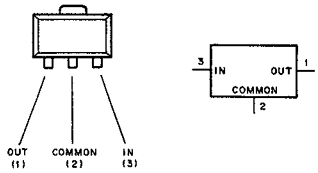
TYPE	MEMORY SIZE
75104	4096x8 BITS
75106	6016x8 BITS
75108	8064x8 BITS
75P108	8064x8 BITS

TYPE	MEMORY SIZE
75104	320x4 BITS
75106	
75108	512x4 BITS
75P108	

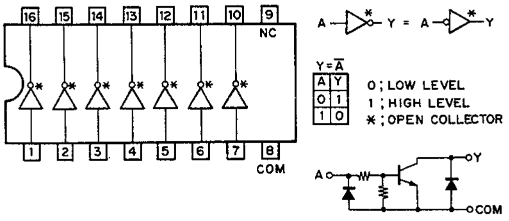
S-8054HNM (SEIKO I AND E) 4.50V – 4.70V
C-MOS VOLTAGE DETECTOR


OUT (1)
VDD (2)
GND (3)
2
VDD
OUT
1
GND
3

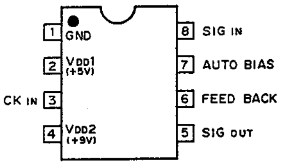
TA78L09F (TOSHIBA) + 9V
POSITIVE VOLTAGE REGULATOR (500mW)
– TOP VIEW –

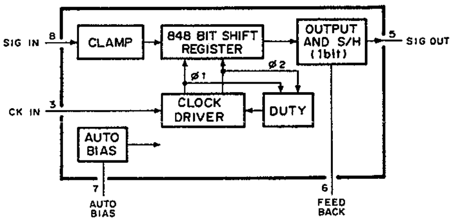

OUT (1)
COMMON (2)
IN (3)
3
IN
OUT
1
COMMON
2

TD62503F (TOSHIBA) FLAT PACKAGE
TRANSISTOR ARRAY, INVERTING DRIVER WITH OPEN COLLECTOR
– TOP VIEW –

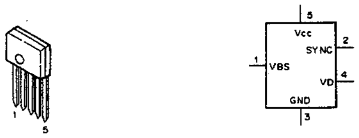

16
15
14
13
12
11
10
9
NC
1
2
3
4
5
6
7
8
COM
A
Y
=
A
Y
Y=Ā
A Y
0 1
1 0
0 ; LOW LEVEL
1 ; HIGH LEVEL
∗ ; OPEN COLLECTOR
A
Y
COM

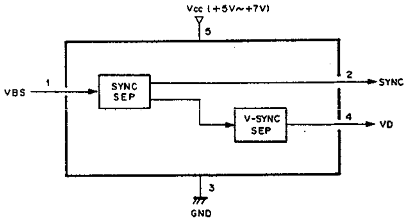
CXL5003P (SONY)
C-MOS CCD FOR PAL 1H DELAY LINE
– TOP VIEW –


1 GND
2 VDD1 (+5V)
CK IN 3
4 VDD2 (+9V)
8 SIG IN
7 AUTO BIAS
6 FEED BACK
5 SIG OUT

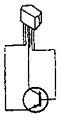

SIG IN 8
CLAMP
848 BIT SHIFT REGISTER
OUTPUT AND S/H (1bit)
5 SIG OUT
ø2
ø1
CK IN 3
CLOCK DRIVER
DUTY
AUTO BIAS
7 AUTO BIAS
6 FEED BACK

LA7213 (SANYO)
SYNC SEPARATOR

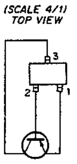

1
5
5
Vcc
SYNC
2
1
VBS
VD
4
GND
3


Vcc (+5V~+7V)
5
VBS
1
SYNC SEP
2
SYNC
V-SYNC SEP
4
VD
3
GND

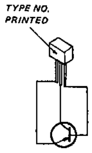
TRANSISTOR



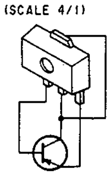
2SA1115


(SCALE 4/1)
TOP VIEW
3
2
1

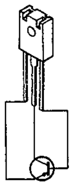
2SA1037K
2SA1162G


TYPE NO.
PRINTED

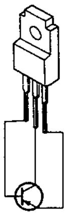
2SA1175



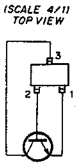
2SB1000A



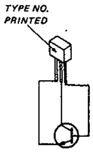
2SB1142



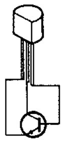
2SB1370


(SCALE 4/1)
TOP VIEW
3
2
1

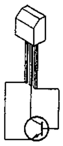
2SC2712
2SC3326N


TYPE NO.
PRINTED

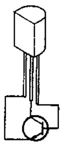
2SC2785



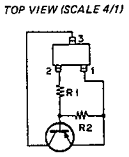
2SC2878



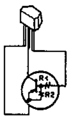
2SD773
2SD774-34



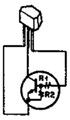
2SD788


TOP VIEW (SCALE 4/1)
3
2
1
R1
R2

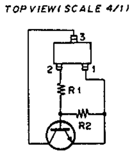
DTA114EK (R1 = 10K, R2 = 10K)
DTA143EK (R1 = 4.7K, R2 = 4.7K)
DTA144EK (R1 = 47K, R2 = 47K)



DTA144ES (R1 = 47K, R2 = 47K)

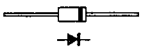


DTC124ES (R1 = 22K, R2 = 22K)
DTC144ES (R1 = 47K, R2 = 47K)

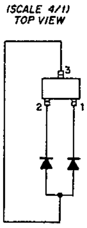

TOP VIEW (SCALE 4/1)
3
2
1
R1
R2

DTC144EK (R1 = 47K, R2 = 47K)

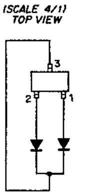
DIODE



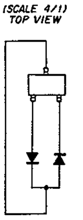
10E-2
1SS119


(SCALE 4/1)
TOP VIEW
3
2
1

1S2835


(SCALE 4/1)
TOP VIEW
3
2
1

1S2837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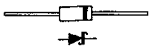
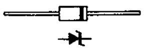
TOP VIEW

1SS123
1SS226

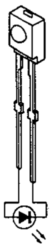


ERC81-004

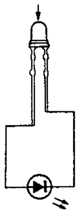


RD ? ?ES ?
RD ? ?ESB ?
RD ? ?FB ?
RD ? ?JS ?

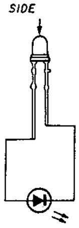
LED



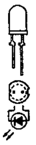
GL451V ; INFRARED


RADIATION SIDE

SLH-34MC3 ; GREEN


RADIATION SIDE

SLR-34DC3 ; ORANGE
SLR-34MC3 ; GREEN
SLR-34VC3 ; RED



TLUG154 ; GREEN

SECTION 12
SPARE PARTS AND OPTIONAL FIXTURES

12-1. PARTS INFORMATION

(1) Safety Related Components Warning

Components marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletin and service manual supplements published by Sony.

(2) Standardization of Parts

Spare parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".
This manual's exploded views and electrical parts list are indicating the part numbers of "the standardized genuine parts at present".

(3) Stock of Parts

Parts marked with "o" SP (Supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

(4) Units for Capacitors, Inductors and Resistors

The following units may be assumed in schematic diagrams, electrical parts list and exploded views unless otherwise specified.

Capacitors : μF
Inductors : μH
Resistors : Ω

12-2. EXPLODED VIEWS

- Exploded views are composed of the following blocks.

(1) Ornamental Panel Block
    Top Panel
    Front Panel
    U Case
    Rear Panel
    Switching Regulator

(2) Printed Circuit Boards
    Power Switch
    Remote Control Jack

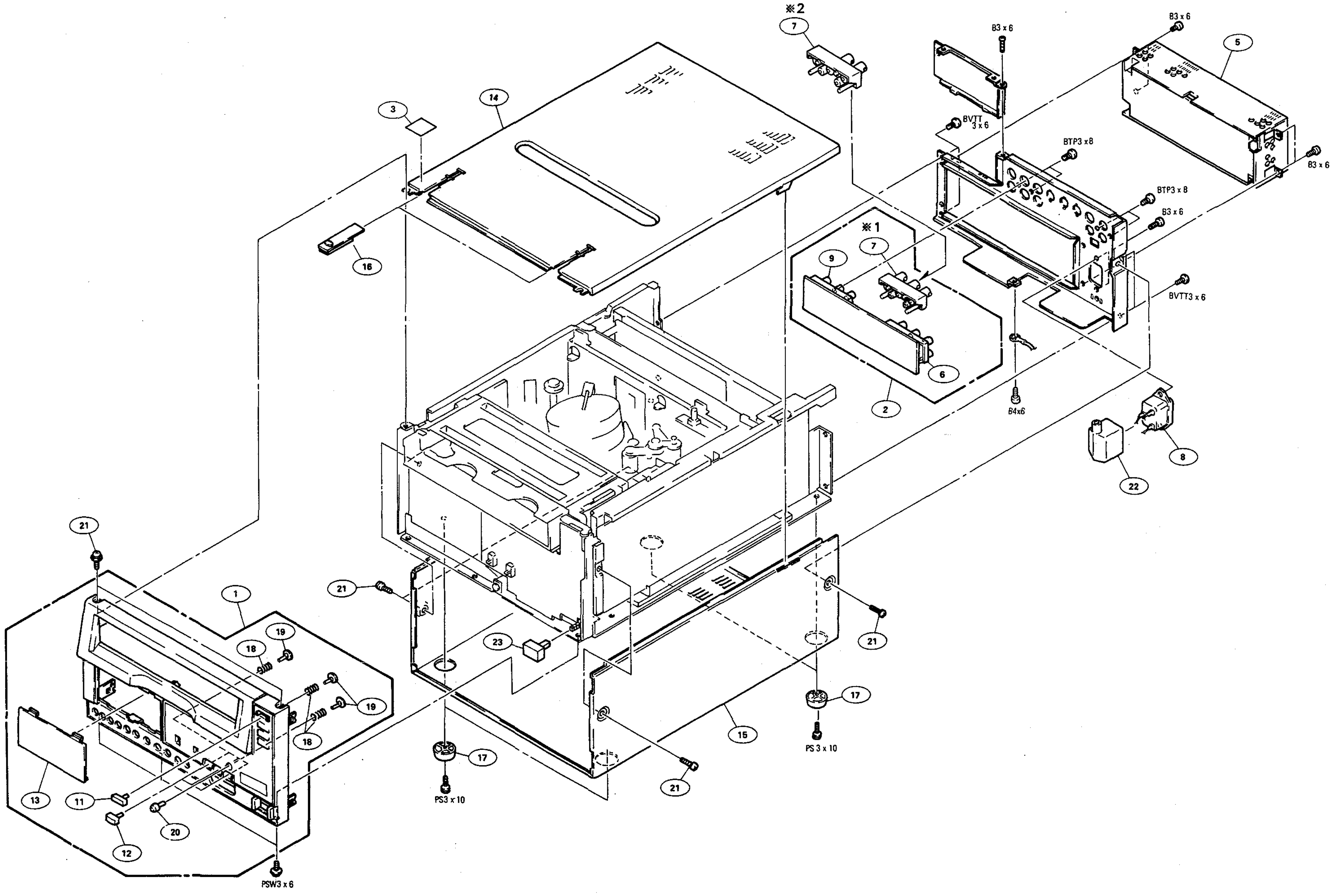
(3) Cassette Compartment Block

(4) Head Drum and Tape run Blocks
    Head Drum
    Cleaning Roller
    Tape Guides
    Stationary Heads
    Slide Rails

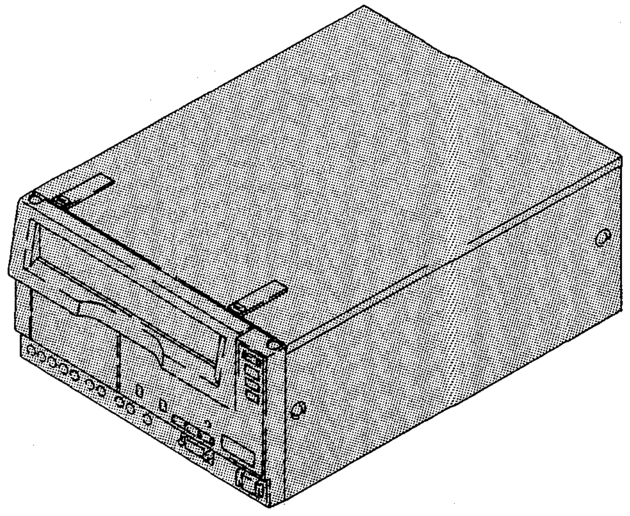
(5) Reel table and Pinch Roller Blocks
    S/T Reel table
    Pinch Roller Block
    Tension Regulator Arm
    RVS Tape Guide

(6) Mechanism Control Block
    Reel motor
    Capstan motor
    Cam Motor Block
    S/T Brake Arm
    Threading Gear Assembly

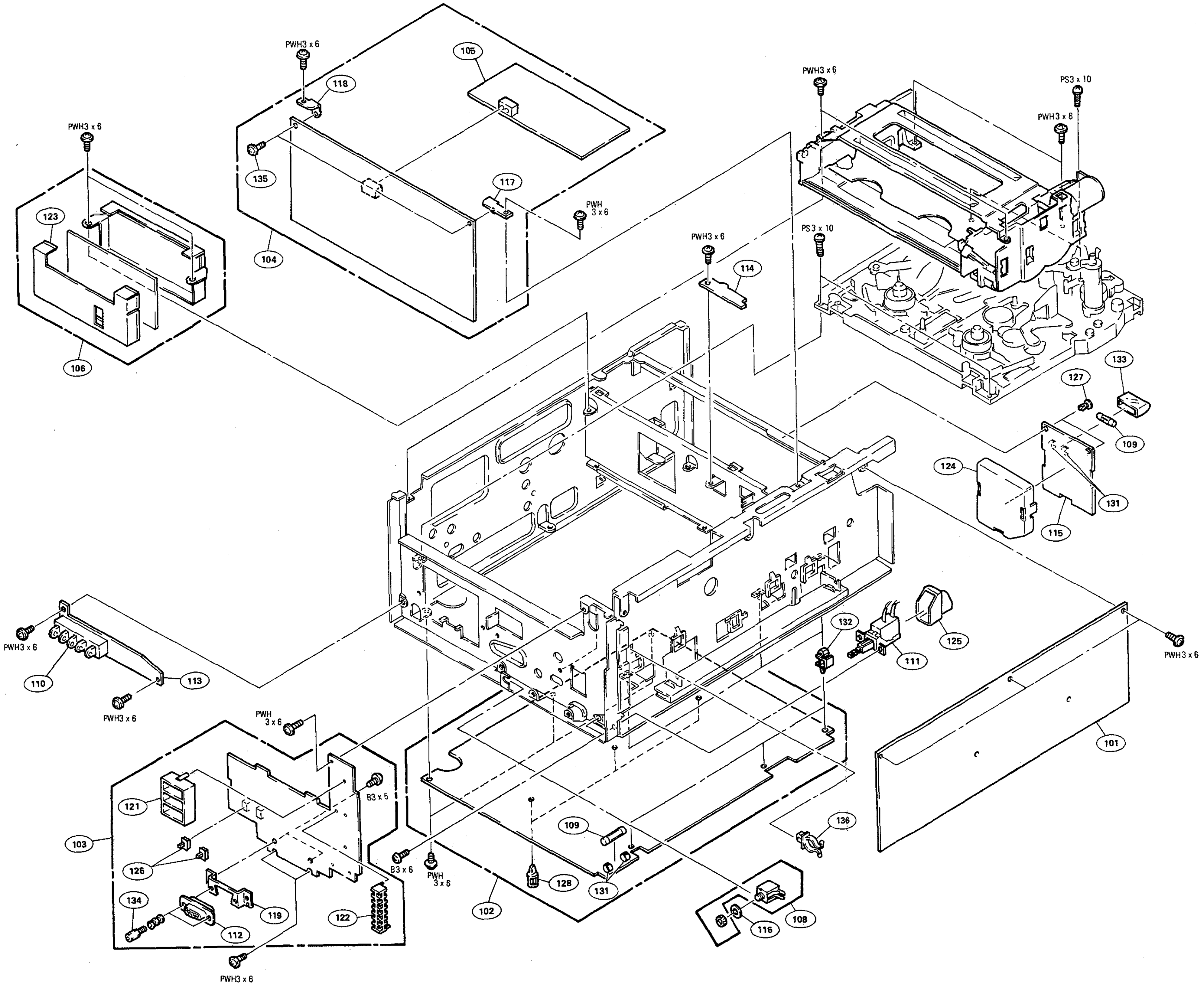
Ornamental Panel Block


※2
7
B3 x 6
B3 x 6
5
3
14
BVTT 3 x 6
BTP3 x 8
B3 x 6
BTP3 x 8
B3 x 6
BVTT3 x 6
※1
7
9
16
6
2
B4x6
8
22
21
1
19
18
19
18
21
23
21
17
15
17
PS 3 x 10
PS3 x 10
13
11
12
20
21
PSW3 x 6

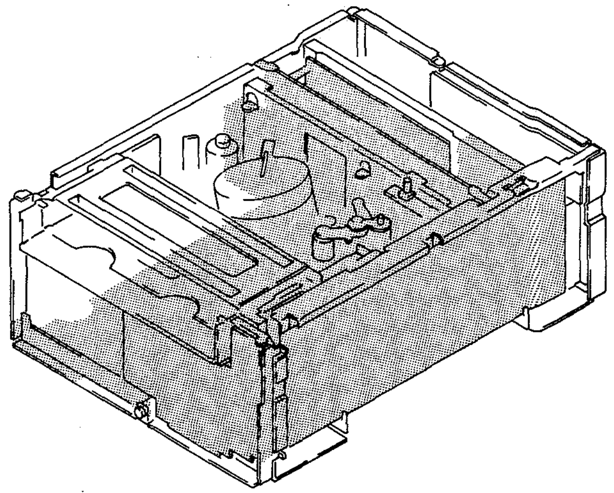
No.	Part No.	SP	Description
1	A-8267-981-A	o	BLOCK ASSY, FRONT PANEL (FOR SVO-915P)
	A-8267-978-A	o	BLOCK ASSY, FRONT PANEL (FOR SVO-965P)
2	A-6756-188-A	o	MOUNTED CIRCUIT BOARD, CP-151 (FOR SVO-965P)
	A-8275-326-A	o	MOUNTED CIRCUIT BOARD, CP-151A (FOR SVO-915P)
3	3-703-082-01	s	LABEL, CAUTION (FOR SVO-965P/915P, EK)
	3-703-848-01	o	LABEL (N), SUB CAUTION (FOR SVO-965P, UC)
5	⚠1-413-617-12	s	SWITCHING REGULATOR (FOR SVO-965P, UC)
	⚠1-413-633-12	s	SWITCHING REGULATOR (FOR SVO-965P/915P, EK)
6	1-507-914-11	s	JACK, PIN 6P
7 ※1	1-750-089-11	s	CONNECTOR, BNC 3P (FOR SVO-965P)
※2	1-764-313-11	s	CONNECTOR, BNC 2P (FOR SVO-915P)
8	⚠1-580-375-11	o	INLET 3P
9	1-580-703-11	s	JACK, PIN 6P
11	3-168-161-11	s	BUTTON, EJECT
12	3-168-162-01	s	BUTTON, SET
13	3-168-168-01	o	PANEL, B
14	3-168-181-01	o	PANEL, TOP
15	3-168-182-01	o	CASE, U
16	3-168-462-01	o	COVER, TOP PANEL
17	3-701-191-03	s	FOOT, RUBBER
18	3-576-921-00	s	SPRING, COMPRESSION
19	3-668-009-02	s	PIN, PUSH BUTTON
20	3-686-084-11	s	PUSH BUTTON
21	3-719-159-01	s	SCREW (M3), (+BW)
22	4-605-946-01	s	COVER, 3P INLET
23	4-879-487-61	s	PUSH BUTTON



Printed Circuit Boards

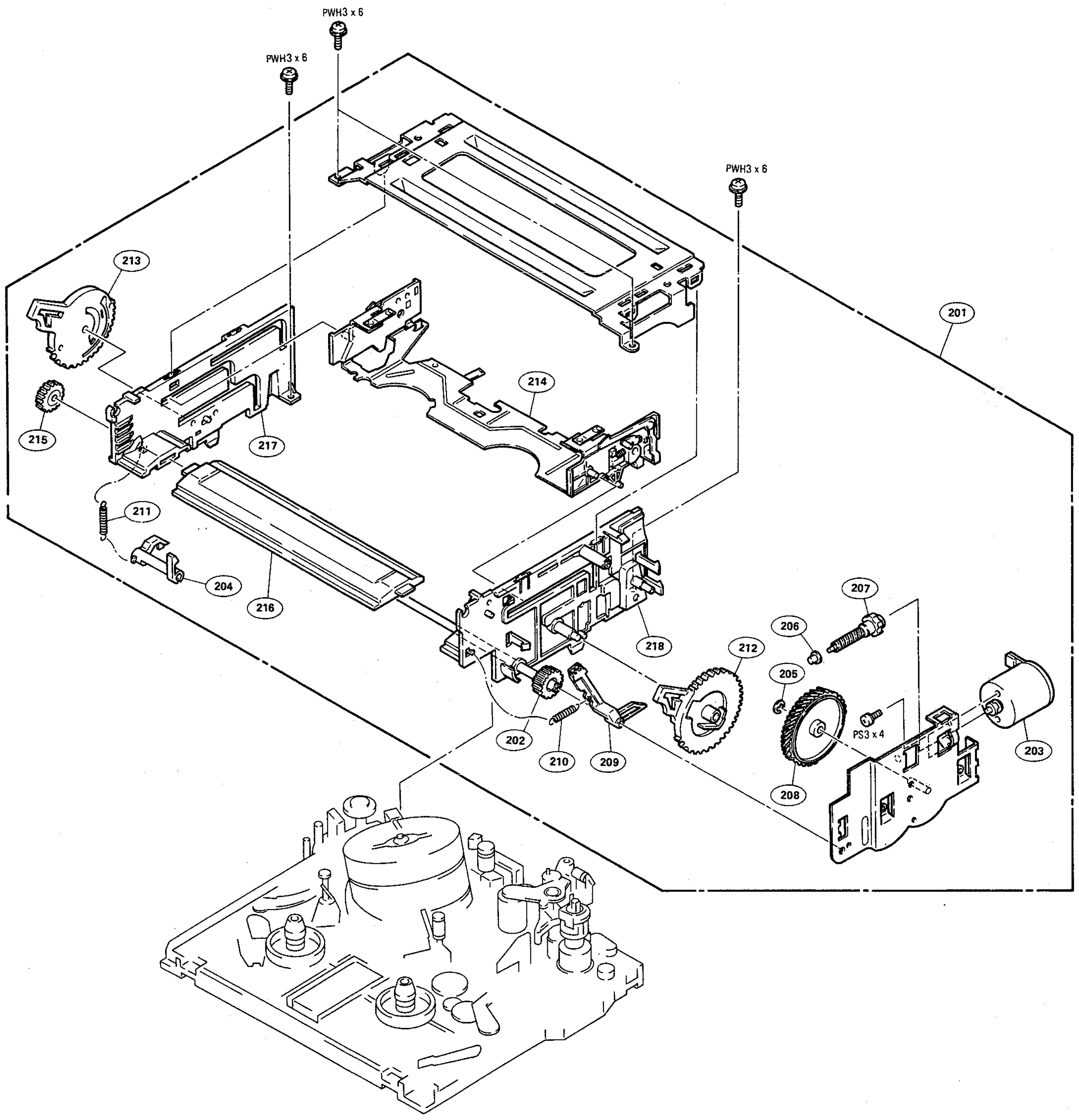

PWH3 x 6
105
118
135
117
PWH 3 x 6
104
PWH3 x 6
123
106
PWH3 x 6
114
PS3 x 10
PWH3 x 6
PS3 x 10
PWH3 x 6
133
127
109
124
131
115
PWH3 x 6
110
113
PWH3 x 6
132
125
111
PWH3 x 6
101
PWH 3 x 6
B3 x 5
121
103
126
134
119
112
122
B3 x 6
PWH 3 x 6
PWH3 x 6
109
128
131
102
136
116
108

No.	Part No.	SP	Description
101	A-8275-320-A	o	MOUNTED CIRCUIT BOARD, AU-190B (FOR SVO-965P)
	A-8275-321-A	o	MOUNTED CIRCUIT BOARD, AU-190C (FOR SVO-915P)
102	A-8275-329-A	o	MOUNTED CIRCUIT BOARD, SS-59B (FOR SVO-965P, EK)
	A-8275-330-A	o	MOUNTED CIRCUIT BOARD, SS-59C (FOR SVO-915P)
	A-8275-524-A	o	MOUNTED CIRCUIT BOARD, SS-59D (FOR SVO-965P, UC)
103	A-6717-609-A	o	MOUNTED CIRCUIT BOARD, KY-194A
104	A-8275-323-A	o	MOUNTED CIRCUIT BOARD, VO-48A (FOR SVO-915P)
	A-8275-492-A	o	MOUNTED CIRCUIT BOARD, VO-48 (FOR SVO-965P)
105	A-6726-317-A	o	MOUNTED CIRCUIT BOARD, DL-44 (SVO-965P ONLY)
106	A-8275-325-A	o	MOUNTED CIRCUIT BOARD, RP-77
108	1-507-251-99	s	JACK
109	⚠1-532-743-11	s	FUSE, GLASS TUBE, 2A, 125V (FOR SVO-965P, UC)
	⚠1-576-228-11	s	FUSE (H.B.C) 2A, 250V (FOR SVO-965P/915P, EK)
110	1-535-943-11	o	TERMINAL, TP
111	⚠1-554-920-11	s	SWITCH, PUSH (AC POWER) (1 KEY)
112	1-563-890-21	s	SOCKET, D-SUB CONNECTOR 9P
113	1-639-704-11	o	PRINTED CIRCUIT BOARD, VR-125
114	1-637-238-12	o	PRINTED CIRCUIT BOARD, TR-68
115	1-637-243-14	o	PRINTED CIRCUIT BOARD, AC-103 (FOR SVO-965P, UC)
	1-637-243-23	o	PRINTED CIRCUIT BOARD, AC-103A (FOR SVO-965P/915P, EK)
116	2-388-234-01	s	WASHER, FLAT
117	3-168-157-02	o	BRACKET (R), VO
118	3-168-158-01	o	BRACKET (L), VO
119	3-168-160-01	o	BRACKET, 9P
121	3-168-164-01	o	HOLDER (LARGE), LED
122	3-168-165-01	o	HOLDER (SMALL), LED
123	3-168-166-01	o	SHIELD (FRONT), RP
124	3-168-180-01	o	COVER, AC PC BOARD
125	3-168-461-01	o	COVER, PW SWITCH
126	X-3165-592-1	s	LEVER ASSY, SW
127	3-646-090-11	s	RIVET, NYLON
128	3-682-057-11	s	SPACER (SMALL)
131	1-533-189-11	s	HOLDER, FUSE
132	4-353-620-02	o	HINGE, PC BOARD
133	4-601-472-00	o	COVER, FUSE
134	4-612-636-01	s	SCREW, CONNECTOR FITTING
135	4-886-821-11	s	SCREW, S-TIGHT, PTTWH3x6
136	4-341-427-01	s	PURSE LOCK (TYPE S) (DIA.15)

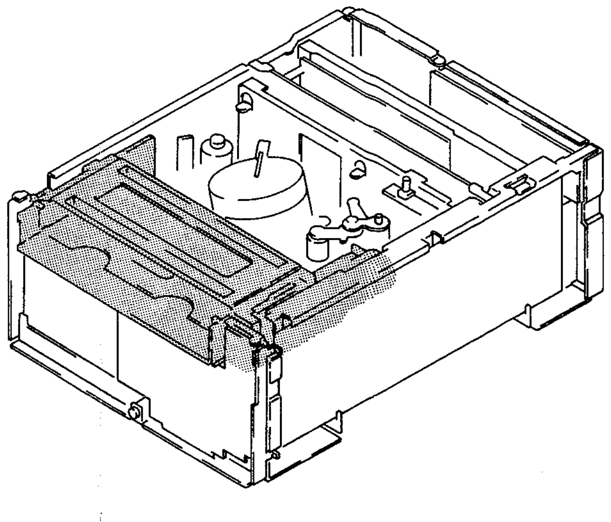


SVO-965P (1)
SVO-915P (1)

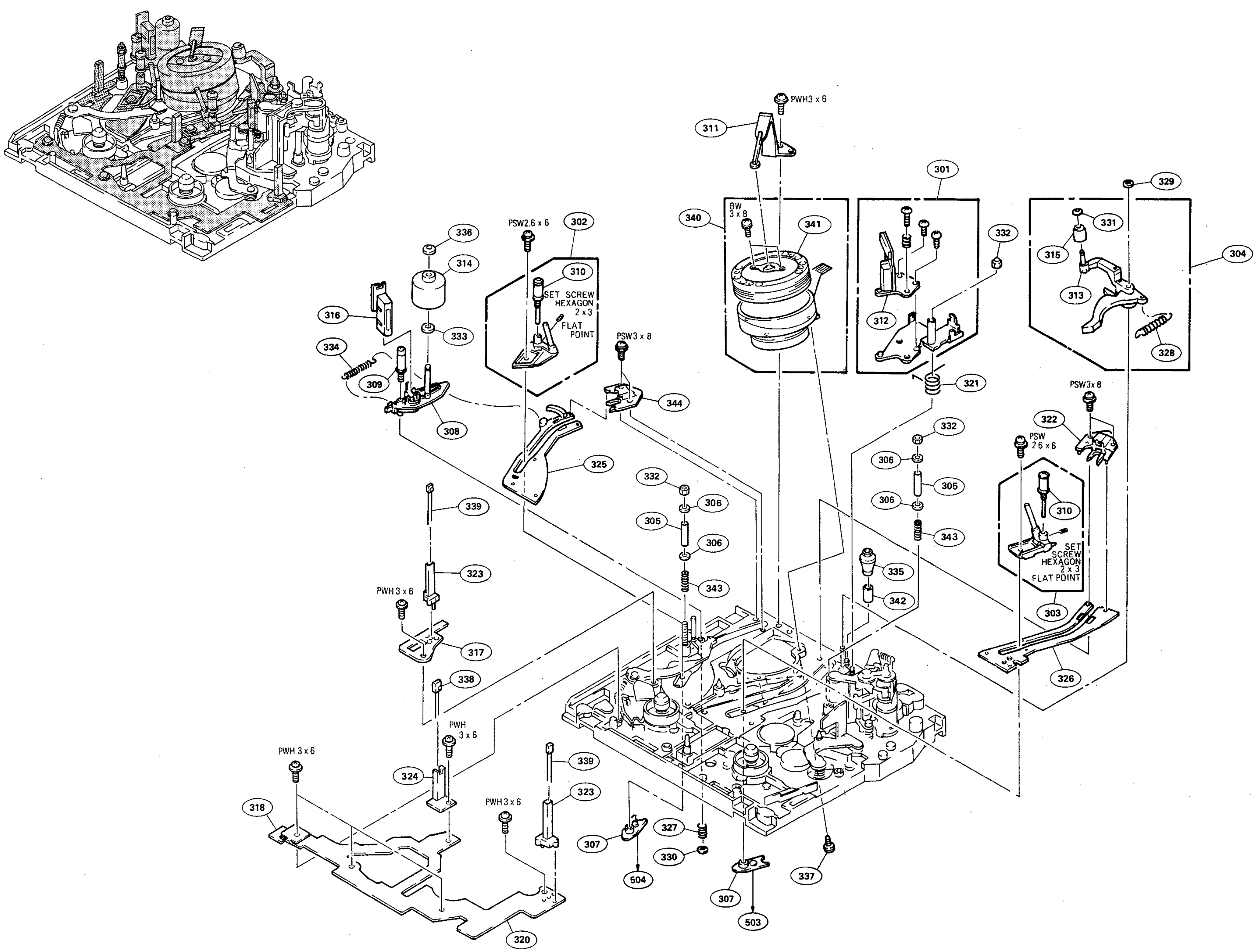
Cassette Compartment Block


PWH3 x 6
PWH3 x 6
PWH3 x 6
213
201
214
215
217
211
204
216
218
207
206
212
205
PS3 x 4
202
210
209
208
203

No.	Part No.	SP	Description
201	A-6751-446-A	s	FL BLOCK ASSY
202	X-3727-775-2	s	GEAR (RIGHT) ASSY, MIDWAY
203	X-3727-784-1	s	MOTOR ASSY
204	3-168-046-03	s	LEVER, PREVENTION
205	3-696-510-01	s	WASHER, STOPPER (3)
206	3-716-144-02	s	WORM RETAINER
207	3-736-100-01	s	GEAR (FL), WORM
208	3-736-164-01	s	WHEEL (FL), WORM
209	3-736-167-01	s	ARM, DOOR SWITCHING
210	3-738-285-01	s	SPRING, TENSION
211	3-739-687-01	s	SPRING, TENSION
212	A-6751-402-B	s	ARM (RIGHT) BLOCK ASSY, DRIVING
213	A-6751-441-B	s	ARM (LEFT) BLOCK ASSY, DRIVING
214	A-6751-442-F	s	DECK BLOCK ASSY
215	3-736-044-02	s	GEAR (LEFT), MIDWAY
216	3-736-162-02	s	RETAINER, CASSETTE
217	3-736-179-05	s	PLATE, SIDE, LEFT
218	3-736-180-06	s	PLATE, SIDE, RIGHT



Head Drum and Tape Run Blocks


PWH3 x 6
311
301
329
340
BW 3x8
341
332
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315
304
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328
312
321
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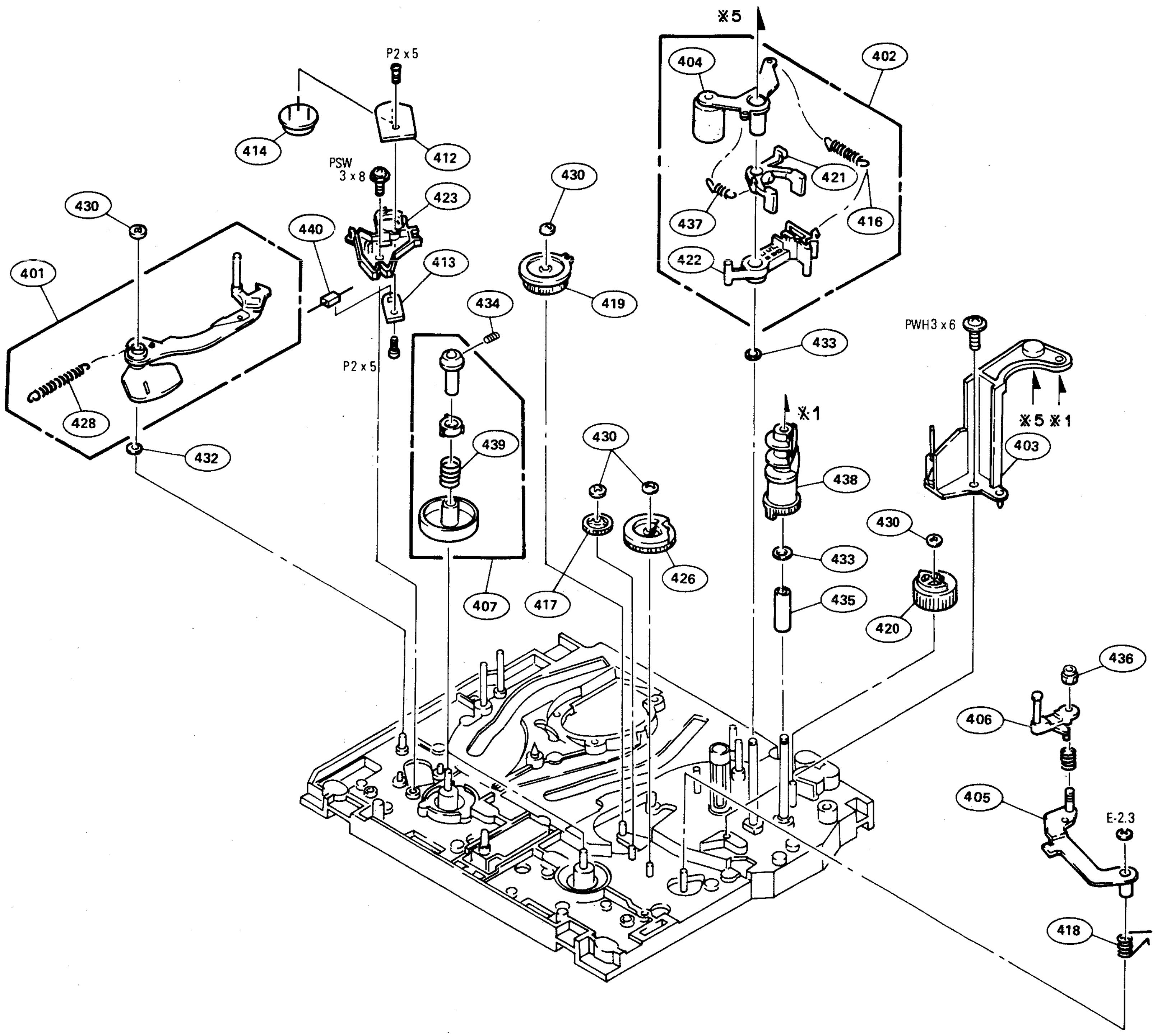
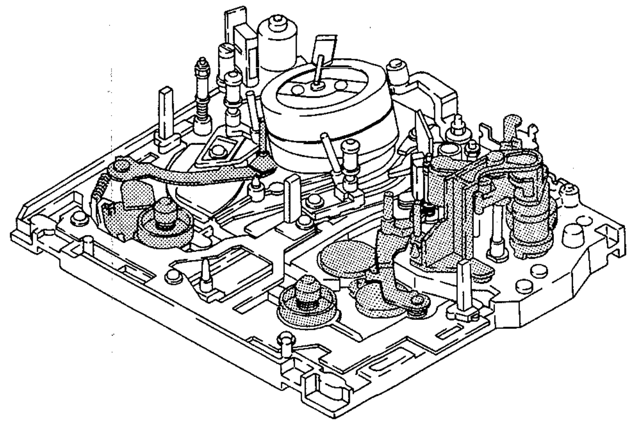
PSW2.6 x 6
302
314
310
SET SCREW HEXAGON 2x3
FLAT POINT
316
333
PSW3 x 8
334
309
308
344
325
PSW3x8
322
332
306
305
PSW 2.6x6
332
306
305
306
310
343
306
343
SET SCREW HEXAGON 2x3
FLAT POINT
339
335
323
342
303
PWH3 x 6
317
326
338
PWH 3x6
PWH 3 x 6
339
324
323
PWH3 x 6
318
327
307
330
504
337
307
503
320

No.	Part No.	SP	Description
301	A-6736-092-A	s	HEAD ASSY, AUDIO
302	A-6746-062-C	s	SHUTTLE (LEFT) BLOCK ASSY
303	A-6746-063-D	s	SHUTTLE (RIGHT) BLOCK ASSY
304	A-6747-277-A	o	ROLLER BLOCK ASSY, BC
305	3-736-730-01	s	SLEEVE, No.7 GUIDE
306	3-736-733-02	s	FLANGE, 7 GUIDE
307	X-3165-329-1	o	PLATE ASSY, SHUTTLE
308	X-3167-341-2	o	BASE ASSY, STABILIZER
309	X-3165-336-1	s	ROLLER ASSY, No.2 GUIDE
310	X-3165-337-1	s	ROLLER ASSY, GUIDE
311	X-3165-584-1	s	GROUND ASSY, SHAFT
312	X-3165-588-1	o	HEAD ASSY, ACE
313	X-3166-556-1	o	ARM ASSY, MC ROLLER
314	X-3167-342-1	s	ROLLER ASSY, IP
315	X-3743-515-4	s	ROLLER ASSY, C
316	1-543-695-11	s	HEAD, FULL-ERASE
317	1-650-153-11	o	PRINTED CIRCUIT BOARD, SE-224
318	1-650-155-11	o	PRINTED CIRCUIT BOARD, SW-668
320	1-650-152-11	o	PRINTED CIRCUIT BOARD, HN-198
321	3-166-987-01	s	SPRING, AH COIL
322	3-166-992-02	s	HOLDER, SHUTTLE
323	3-167-013-02	o	HOLDER, ST SENSOR
324	3-167-028-02	o	HOLDER, LED
325	3-167-034-02	s	RAIL (L), SLIDE
326	3-167-035-05	s	RAIL (R), SLIDE
327	3-305-423-00	s	SPRING, COMPRESSION
328	3-669-979-00	s	SPRING, TENSION
329	3-650-537-00	o	WASHER
330	3-669-465-00	s	WASHER (1.5), STOPPER
331	3-669-595-00	s	WASHER (2), STOPPER
332	3-942-866-01	s	NUT (N3)(3x0.5), NYLON
333	3-701-437-01	s	WASHER, POLY 2MM DIA., 0.13T
334	3-736-745-01	s	SPRING
335	3-738-250-01	s	SCREW, AC ADJUSTMENT
336	3-741-925-01	s	RING, RETAINING
337	3-899-248-11	s	SCREW (M3x8)
338	8-719-985-00	s	LED GL451VS1, IR
339	8-729-926-31	s	PHOTOTRANSISTOR PT483F1S
340	8-848-615-11	s	DRUM ASSY DZH-65A-R
341	8-848-617-01	s	UPPER DRUM ASSY, DZR-65-R
342	3-703-309-41	o	SPACER
343	3-749-099-01	s	SPRING (No.7 GUIDE), COMPRESSION
344	3-166-992-11	s	HOLDER, SHUTTLE

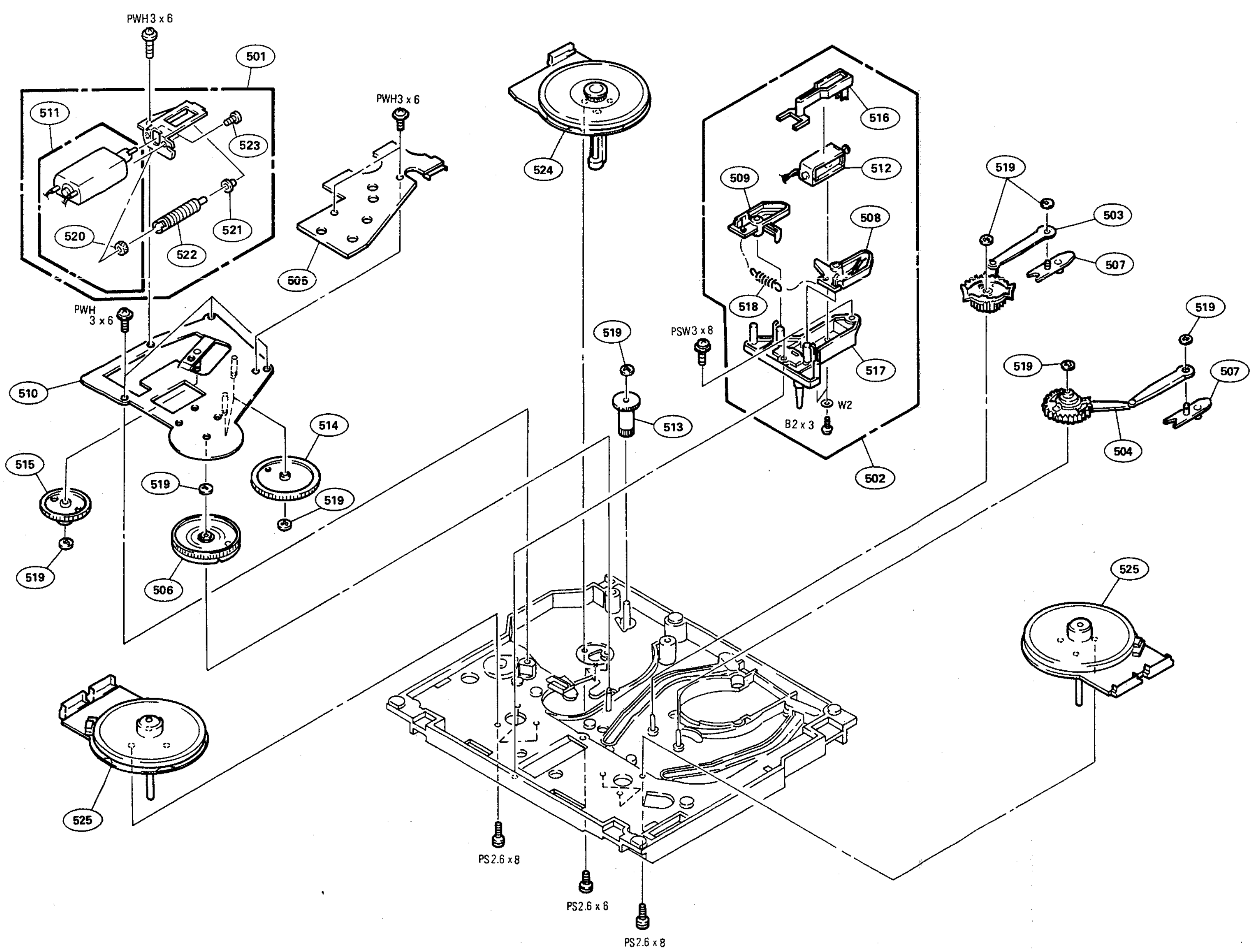
Reel Table and Pinch Roller Blocks


※5
404
402
P2 x 5
414
412
PSW
3 x 8
423
430
421
416
430
437
440
413
422
401
434
419
433
PWH3 x 6
P2 x 5
※1
※5 ※1
428
439
403
432
430
438
430
433
426
435
407
417
420
436
406
405
E-2.3
418

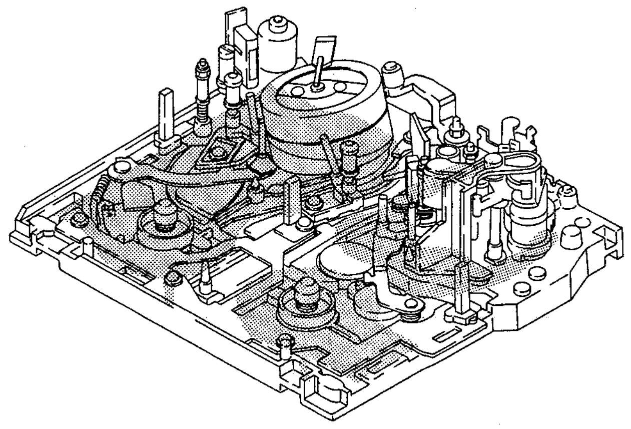
No.	Part No.	SP	Description
401	A-6742-071-A	s	ARM ASSY. TENSION REGULATOR
402	A-6750-279-D	s	PINCH ROLLER BLOCK ASSY
403	X-3166-781-1	o	OPENER ASSY. CASSETTE
404	X-3167-443-1	o	ARM ASSY. PINCH ROLLER
405	X-3165-340-1	o	ARM ASSY. RVS
406	X-3165-341-1	s	BASE ASSY. GUIDE
407	X-3165-345-1	s	TABLE ASSY. REEL
412	1-650-347-11	o	PRINTED CIRCUIT BOARD. SE-230
413	1-650-346-11	o	PRINTED CIRCUIT BOARD. LE-131
414	1-806-232-21	s	DETECTOR MB-1102/S.N
416	3-177-579-01	s	SPRING
417	3-166-989-02	s	GEAR. RVS RELAY
418	3-166-991-01	s	SPRING. RVS COIL
419	3-167-006-01	s	GEAR. FR DRIVING
420	3-167-008-01	s	GEAR. PRESS CAM
421	3-167-011-03	o	CONVEXITY BLOCK
422	3-167-012-03	o	ARM. PRESS LOCK
423	3-167-036-01	o	HOLDER. STD
426	3-166-990-01	s	GEAR. RVS CAM
428	3-490-159-03	s	SPRING. TENSION
430	3-669-596-01	s	WASHER (2.3). STOPPER
432	3-701-439-21	s	WASHER. POLY 3MM DIA.. 0.5T
433	3-701-443-21	s	WASHER. POLY 5MM DIA.. 0.5T
434	3-701-506-01	s	SET SCREW. DOUBLE POINT 3x4
435	3-703-309-31	s	SPACER (5x18)
436	3-181-686-01	s	NUT (N3) (3x0.35)
437	3-736-046-01	s	SPRING (RETURN). TENSION
438	3-952-182-01	s	CAM. ELEVATOR
439	3-739-621-01	s	SPRING. COMPRESSION
440	8-719-821-22	s	LED TL0221. ORG



Mechanism Control Block


PWH3 x 6
501
511
523
521
520
522
PWH3 x 6
505
524
509
516
512
508
518
517
PSW3 x 8
519
513
W2
B2 x 3
502
519
503
507
519
519
507
504
PWH 3 x 6
510
514
515
519
519
519
506
519
525
525
PS2.6 x 8
PS2.6 x 6
PS2.6 x 8

No.	Part No.	SP	Description
501	A-6737-203-C	s	MOTOR BLOCK ASSY, CAM
502	A-6741-069-A	o	BRAKE BLOCK ASSY, REEL
503	A-6750-281-A	s	GEAR (RIGHT) BLOCK ASSY, LOADING
504	A-6750-282-B	s	GEAR (LEFT) BLOCK ASSY, LOADING
505	A-8274-306-A	o	MOUNTED CIRCUIT BOARD, PTC-73
506	X-3165-327-1	s	GEAR ASSY, MODE
507	X-3165-329-1	o	PLATE ASSY, SHUTTLE
508	X-3165-330-3	s	ARM (S) ASSY, BRAKE
509	X-3165-331-2	s	ARM (T) ASSY, BRAKE
510	X-3165-347-2	o	HOLDER ASSY, DRIVING GEAR
511	X-3165-593-3	o	MOTOR ASSY, CAM
512	1-454-531-11	s	SOLENOID, PLUNGER
513	3-166-988-01	s	GEAR, PINCH COMMUNICATION
514	3-167-001-01	s	GEAR, RELAY
515	3-167-081-01	s	WHEEL, WORM
516	3-167-834-01	o	SLIDER, B
517	3-167-835-01	o	CLAMP, M
518	3-533-253-01	s	SPRING,TENSION
519	3-669-596-01	s	WASHER (2.3), STOPPER
520	3-696-388-01	s	RUBBER, JOINT
521	3-716-144-02	s	RETAINER, WORM
522	3-733-395-01	s	GEAR (CAM), WORM
523	7-627-553-28	s	SCREW +P 2x2.5
524	8-835-350-02	s	MOTOR, DC U-26A
525	8-835-501-01	s	MOTOR, DC SRV-0202A



12-3. ELECTRICAL PARTS LIST

AC-103 BOARD / UC

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-637-243-14	o	PRINTED CIRCUIT BOARD, AC-103
2pcs	1-533-189-11	s	HOLDER, FUSE
1pc	3-168-180-01	o	COVER, AC PC BOARD
2pcs	3-646-090-11	s	RIVET, NYLON
C1	⚠1-161-744-00	s	CERAMIC 0.01uF 400V
CN903	⚠1-568-226-11	o	CONNECTOR, VH 2P, MALE
CN904	⚠1-564-215-11	o	CONNECTOR 4P, MALE
F1	⚠1-532-743-11	s	FUSE, 2A 125V
R1	⚠1-214-937-00	s	METAL 1M 1% 1/2W

AC-103A BOARD / EK

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-637-243-23	o	PRINTED CIRCUIT BOARD, AC-103A
2pcs	1-533-189-11	s	HOLDER, FUSE
1pc	3-168-180-01	o	COVER, AC PC BOARD
2pcs	3-646-090-11	s	RIVET, NYLON
C1	⚠1-137-106-11	s	FILM 0.022uF 20% 25V
CN903	⚠1-568-226-11	o	CONNECTOR, VH 2P, MALE
CN904	⚠1-564-215-11	o	CONNECTOR 4P, MALE
F1	⚠1-576-228-11	s	FUSE 2A 250V
R1	⚠1-214-937-00	s	METAL 1M 1% 1/2W

AH-28 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
CN616	1-564-014-11	s	CONNECTOR 4P, MALE
CN617	1-506-481-11	s	CONNECTOR 2P, MALE
CN618	1-506-481-11	s	CONNECTOR 2P, MALE
H1002	X-3165-588-1	o	HEAD ASS'Y, ACE

AU-190B BOARD / SVO-965P

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-320-A	o	MOUNTED CIRCUIT BOARD, AU-190B
C1	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C2	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C4	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C5	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C6	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C8	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C9	1-128-499-11	s	ELECT 220uF 20% 16V
C10	1-124-584-00	s	ELECT 100uF 20% 10V
C14	1-126-160-11	s	ELECT 1uF 20% 50V
C101	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C102	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C103	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C104	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C105	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C106	1-126-163-11	s	ELECT 4.7uF 20% 50V
C107	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C108	1-124-589-11	s	ELECT 47uF 20% 16V
C109	1-126-163-11	s	ELECT 4.7uF 20% 50V
C111	1-126-162-11	s	ELECT 3.3uF 20% 50V
C113	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C114	1-126-947-11	s	ELECT 47uF 20% 35V
C115	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C116	1-126-163-11	s	ELECT 4.7uF 20% 50V
C117	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C118	1-124-239-00	s	ELECT 6.8uF 20% 25V
C119	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C120	1-126-947-11	s	ELECT 47uF 20% 35V
C121	1-126-157-11	s	ELECT 10uF 20% 16V
C122	1-126-934-11	s	ELECT 220uF 20% 16V
C124	1-124-589-11	s	ELECT 47uF 20% 16V
C125	1-126-157-11	s	ELECT 10uF 20% 16V
C126	1-124-589-11	s	ELECT 47uF 20% 16V
C127	1-124-589-11	s	ELECT 47uF 20% 16V
C128	1-163-145-00	s	CERAMIC, CHIP 0.0015uF 5% 50V
C131	1-126-163-11	s	ELECT 4.7uF 20% 50V
C133	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C135	1-126-160-11	s	ELECT 1uF 20% 50V
C136	1-126-163-11	s	ELECT 4.7uF 20% 50V
C137	1-124-234-00	s	ELECT 22uF 20% 16V
C138	1-126-947-11	s	ELECT 47uF 20% 35V
C139	1-126-163-11	s	ELECT 4.7uF 20% 50V
C140	1-126-163-11	s	ELECT 4.7uF 20% 50V
C141	1-124-584-00	s	ELECT 100uF 20% 10V
C142	1-131-587-11	s	TANTALUM 0.68uF 5% 35V
C143	1-126-163-11	s	ELECT 4.7uF 20% 50V
C144	1-126-163-11	s	ELECT 4.7uF 20% 50V
C145	1-126-163-11	s	ELECT 4.7uF 20% 50V
C147	1-130-486-00	s	MYLAR 0.018uF 10% 50V
C149	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C152	1-124-589-11	s	ELECT 47uF 20% 16V
C153	1-126-157-11	s	ELECT 10uF 20% 16V
C154	1-126-157-11	s	ELECT 10uF 20% 16V
C155	1-126-163-11	s	ELECT 4.7uF 20% 50V
C156	1-126-163-11	s	ELECT 4.7uF 20% 50V
C157	1-126-163-11	s	ELECT 4.7uF 20% 50V
C158	1-136-437-11	s	FILM 220PF 5% 630V
C159	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V

(AU-190B BOARD / SVO-965P)

Ref. No. or Q'ty	Part No.	SP	Description
C160	1-126-163-11	s	ELECT 4.7uF 20% 50V
C161	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C163	1-124-589-11	s	ELECT 47uF 20% 16V
C164	1-124-589-11	s	ELECT 47uF 20% 16V
C165	1-130-477-00	s	MYLAR 0.0033uF 5% 50V
C167	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C170	1-124-589-11	s	ELECT 47uF 20% 16V
C201	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C202	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C203	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C204	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C205	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C206	1-126-163-11	s	ELECT 4.7uF 20% 50V
C207	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C208	1-124-589-11	s	ELECT 47uF 20% 16V
C209	1-126-163-11	s	ELECT 4.7uF 20% 50V
C211	1-126-162-11	s	ELECT 3.3uF 20% 50V
C213	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C214	1-126-163-11	s	ELECT 4.7uF 20% 50V
C215	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C216	1-124-239-00	s	ELECT 6.8uF 20% 25V
C217	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C218	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C221	1-126-157-11	s	ELECT 10uF 20% 16V
C222	1-126-934-11	s	ELECT 220uF 20% 16V
C224	1-124-589-11	s	ELECT 47uF 20% 16V
C225	1-126-157-11	s	ELECT 10uF 20% 16V
C226	1-124-589-11	s	ELECT 47uF 20% 16V
C228	1-163-145-00	s	CERAMIC, CHIP 0.0015uF 5% 50V
C231	1-126-163-11	s	ELECT 4.7uF 20% 50V
C233	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C235	1-126-160-11	s	ELECT 1uF 20% 50V
C236	1-126-163-11	s	ELECT 4.7uF 20% 50V
C237	1-124-234-00	s	ELECT 22uF 20% 16V
C238	1-126-947-11	s	ELECT 47uF 20% 35V
C239	1-126-163-11	s	ELECT 4.7uF 20% 50V
C240	1-126-163-11	s	ELECT 4.7uF 20% 50V
C242	1-131-587-11	s	TANTALUM 0.68uF 5% 35V
C243	1-126-163-11	s	ELECT 4.7uF 20% 50V
C244	1-126-163-11	s	ELECT 4.7uF 20% 50V
C245	1-126-163-11	s	ELECT 4.7uF 20% 50V
C247	1-130-486-00	s	MYLAR 0.018uF 10% 50V
C249	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C252	1-124-589-11	s	ELECT 47uF 20% 16V
C253	1-126-157-11	s	ELECT 10uF 20% 16V
C254	1-126-157-11	s	ELECT 10uF 20% 16V
C255	1-126-163-11	s	ELECT 4.7uF 20% 50V
C257	1-126-163-11	s	ELECT 4.7uF 20% 50V
C258	1-136-437-11	s	FILM 220PF 5% 630V
C259	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V
C260	1-126-163-11	s	ELECT 4.7uF 20% 50V
C261	1-126-157-11	s	ELECT 10uF 20% 16V
C262	1-126-934-11	s	ELECT 220uF 20% 16V
C263	1-124-589-11	s	ELECT 47uF 20% 16V
C264	1-124-589-11	s	ELECT 47uF 20% 16V
C265	1-130-477-00	s	MYLAR 0.0033uF 5% 50V
C267	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C270	1-124-589-11	s	ELECT 47uF 20% 16V
C301	1-124-257-00	s	ELECT 2.2uF 20% 50V

(AU-190B BOARD / SVO-965P)

Ref. No. or Q'ty	Part No.	SP	Description
C302	1-124-257-00	s	ELECT 2.2uF 20% 50V
C303	1-126-160-11	s	ELECT 1uF 20% 50V
C304	1-163-989-11	s	CERAMIC, CHIP 0.033uF 10% 25V
C305	1-126-157-11	s	ELECT 10uF 20% 16V
C308	1-126-934-11	s	ELECT 220uF 20% 16V
C310	1-126-163-11	s	ELECT 4.7uF 20% 50V
C401	1-109-675-11	s	MICA 120PF 1% 500V
C402	1-109-675-11	s	MICA 120PF 1% 500V
C403	1-136-558-11	s	FILM 0.0039uF 5% 630V
C404	1-130-473-00	s	MYLAR 0.0015uF 5% 50V
C405	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C406	1-124-589-11	s	ELECT 47uF 20% 16V
C407	1-126-160-11	s	ELECT 1uF 20% 50V
C408	1-124-234-00	s	ELECT 22uF 20% 16V
CN302	1-564-002-41	s	CONNECTOR 3P, MALE
CN303	1-506-468-11	s	CONNECTOR 3P, MALE
CN304	1-564-002-11	s	CONNECTOR 3P, MALE
CN305	1-506-474-11	s	CONNECTOR 9P, MALE
CN308	1-506-471-11	s	CONNECTOR 6P, MALE
CN309	1-506-469-11	s	CONNECTOR 4P, MALE
CN310	1-506-471-11	s	CONNECTOR 6P, MALE
CN311	1-564-009-11	o	CONNECTOR 10P, MALE
CN312	1-506-475-11	s	CONNECTOR 10P, MALE
CN313	1-506-473-11	s	CONNECTOR 8P, MALE
CN315	1-564-002-11	s	CONNECTOR 3P, MALE
CN316	1-506-468-11	s	CONNECTOR 3P, MALE
CN319	1-506-469-11	s	CONNECTOR 4P, MALE
D4	8-719-801-78	s	DIODE 1SS184
D5	8-719-801-78	s	DIODE 1SS184
D101	8-719-109-93	s	DIODE RD6.2ES-B2
D102	8-719-801-78	s	DIODE 1SS184
D103	8-719-109-81	s	DIODE RD4.7ES-B2
D104	8-719-801-78	s	DIODE 1SS184
D202	8-719-801-78	s	DIODE 1SS184
D203	8-719-109-81	s	DIODE RD4.7ES-B2
D205	8-719-911-19	s	DIODE 1SS119
D206	8-719-911-19	s	DIODE 1SS119
D301	8-719-801-78	s	DIODE 1SS184
D302	8-719-801-78	s	DIODE 1SS184
D307	8-719-801-78	s	DIODE 1SS184
D308	8-719-801-78	s	DIODE 1SS184
D401	8-719-110-14	s	DIODE RD9.1ESB3
D402	8-719-109-81	s	DIODE RD4.7ES-B2
FL101	1-236-570-11	s	FILTER, BAND-PASS 1.4MHz
FL102	1-239-008-11	s	FILTER, LOW-PASS
FL201	1-236-569-11	s	FILTER, BAND-PASS 1.8MHz
FL202	1-239-008-11	s	FILTER, LOW-PASS
IC1	8-759-420-15	s	IC AN3932S
IC2	8-759-420-18	s	IC AN3972FC
IC3	8-759-711-35	s	IC NJM4580D
IC4	8-759-168-19	s	IC TA78L09F-TE12L
IC5	8-752-057-20	s	IC CXA1102P
IC6	8-759-145-58	s	IC UPC4558C
IC7	8-759-987-91	s	IC BA10393
IC8	8-759-140-53	s	IC UPD4053BC
IC9	8-759-000-33	s	IC MC14024BCP
IC101	8-759-805-20	s	IC LA7297

Ref. No. or Q'ty	Part No.	SP	Description
IC102	8-759-145-58	s	IC UPC4558C
IC103	8-759-602-49	s	IC M5201P
IC201	8-759-805-20	s	IC LA7297
IC202	8-759-145-58	s	IC UPC4558C
IC203	8-759-602-49	s	IC M5201P
L2	1-410-482-31	s	INDUCTOR 100uH
L3	1-410-482-31	s	INDUCTOR 100uH
L101	1-410-088-21	s	INDUCTOR 12mH
L102	1-410-091-31	s	INDUCTOR 22mH
L201	1-410-088-21	s	INDUCTOR 12mH
L202	1-410-091-31	s	INDUCTOR 22mH
L401	1-410-120-11	s	INDUCTOR 1.2mH
Q6	8-729-901-06	s	TRANSISTOR DTA144EK
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q9	8-729-901-06	s	TRANSISTOR DTA144EK
Q10	8-729-901-01	s	TRANSISTOR DTC144EK
Q11	8-729-901-06	s	TRANSISTOR DTA144EK
Q12	8-729-901-06	s	TRANSISTOR DTA144EK
Q101	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q102	8-729-901-01	s	TRANSISTOR DTC144EK
Q109	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q110	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q111	8-729-231-55	s	TRANSISTOR 2SC2878-AB
Q113	8-729-901-06	s	TRANSISTOR DTA144EK
Q114	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q130	8-729-901-01	s	TRANSISTOR DTC144EK
Q201	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q202	8-729-901-01	s	TRANSISTOR DTC144EK
Q209	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q210	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q211	8-729-231-55	s	TRANSISIOT 2SC2878-AB
Q213	8-729-901-06	s	TRANSISTOR DTA144EK
Q214	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q216	8-729-901-06	s	TRANSISTOR DTA144EK
Q230	8-729-901-01	s	TRANSISTOR DTC144EK
Q231	8-729-216-22	s	TRANSISTOR 2SA1162
Q302	8-729-901-01	s	TRANSISTOR DTC144EK
Q303	8-729-901-01	s	TRANSISTOR DTC144EK
Q306	8-729-901-01	s	TRANSISTOR DTC144EK
Q401	8-729-140-98	s	TRANSISTOR 2SD773-3
Q402	8-729-320-60	s	TRANSISTOR 2SD788-34
Q404	8-729-216-22	s	TRANSISTOR 2SA1162
Q405	8-729-230-49	s	TRANSISTOR 2SC2712-YG
R1	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R2	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R4	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R5	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R7	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R8	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R10	1-215-433-00	s	METAL 3.3K 1% 1/6W
R11	1-215-455-00	s	METAL 27K 1% 1/6W
R12	1-249-437-11	s	CARBON 47K 5% 1/4W
R13	1-249-429-11	s	CARBON 10K 5% 1/4W
R19	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R21	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R22	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R23	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W

Ref. No. or Q'ty	Part No.	SP	Description
R24	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R25	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R26	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R27	1-216-055-00	s	METAL, CHIP 1.8K 5% 1/10W
R28	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R29	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R30	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R31	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R32	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R33	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R101	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R102	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R103	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R104	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R105	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R106	1-215-449-00	s	METAL 15K 1% 1/6W
R107	1-215-445-00	s	METAL 10K 1% 1/6W
R108	1-215-447-00	s	METAL 12K 1% 1/6W
R110	1-215-447-00	s	METAL 12K 1% 1/6W
R113	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R117	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R118	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R119	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R120	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R121	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R122	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R123	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R126	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R127	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R128	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R129	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R130	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R132	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R134	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R135	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R136	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R137	1-215-433-00	s	METAL 3.3K 1% 1/6W
R138	1-215-436-00	s	METAL 4.3K 1% 1/6W
R139	1-215-432-00	s	METAL 3K 1% 1/6W
R140	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R141	1-215-460-00	s	METAL 43K 1% 1/6W
R142	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R143	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R144	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R145	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R148	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R152	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R157	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R158	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R159	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R160	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R161	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R162	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R163	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R164	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R165	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R166	1-216-682-11	s	METAL, CHIP 20K 0.5% 1/10W
R167	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R168	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R169	1-216-668-11	s	METAL, CHIP 5.1K 0.5% 1/10W
R174	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R175	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R176	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R177	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R178	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R179	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R185	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R188	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R191	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R192	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R193	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R194	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R195	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R196	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R197	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R201	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R202	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R203	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R204	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R205	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R206	1-215-445-00	s	METAL 10K 1% 1/6W
R207	1-215-445-00	s	METAL 10K 1% 1/6W
R208	1-215-447-00	s	METAL 12K 1% 1/6W
R210	1-215-447-00	s	METAL 12K 1% 1/6W
R217	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R218	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R219	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R220	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R222	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R223	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R226	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R227	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R228	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R229	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R230	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R232	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R234	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R235	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R236	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R237	1-215-433-00	s	METAL 3.3K 1% 1/6W
R238	1-215-436-00	s	METAL 4.3K 1% 1/6W
R239	1-215-432-00	s	METAL 3K 1% 1/6W
R240	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R242	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R243	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R244	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R245	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R248	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R252	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R257	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R258	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R259	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R260	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R261	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R262	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R263	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R264	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R265	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R267	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R268	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R274	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R276	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R277	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R278	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R279	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R281	1-247-811-31	s	CARBON 150 5% 1/4W
R283	1-249-401-11	s	CARBON 47 5% 1/4W
R285	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R286	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R287	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R288	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R291	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R292	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R293	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R294	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R295	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R296	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R297	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R302	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R304	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R305	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R306	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R308	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R309	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R312	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R313	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R314	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R315	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R319	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R321	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R322	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R327	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R328	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R329	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R333	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R401	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R402	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R403	1-249-381-11	s	CARBON 1 5% 1/4W
R404	1-249-381-11	s	CARBON 1 5% 1/4W
R405	1-249-429-11	s	CARBON 10K 5% 1/4W
R406	1-249-387-11	s	CARBON 3.3 5% 1/4W
R408	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R409	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R413	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R414	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R415	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R416	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R417	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
RJ1	1-216-295-00	s	METAL, CHIP 0
RJ2	1-216-295-00	s	METAL, CHIP 0
RJ3	1-216-295-00	s	METAL, CHIP 0
RV2	1-238-019-11	s	RES, ADJ CARBON 47K
RV101	1-241-763-11	s	RES, ADJ METAL 4.7k
RV102	1-241-763-11	s	RES, ADJ METAL 4.7k
RV103	1-230-522-11	s	RES, ADJ METAL 4.7K

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Ref. No. or Q'ty	Part No.	SP	Description
RV104	1-230-522-11	s	RES, ADJ METAL 4.7K
RV105	1-241-765-11	s	RES, ADJ METAL 22k
RV106	1-238-019-11	s	RES, ADJ CARBON 47K
RV107	1-241-765-11	s	RES, ADJ METAL 22k
RV108	1-241-783-11	s	RES, ADJ METAL 2.2K
RV110	1-241-784-11	s	RES, ADJ METAL 4.7k
RV201	1-241-763-11	s	RES, ADJ METAL 4.7k
RV202	1-241-763-11	s	RES, ADJ METAL 4.7k
RV203	1-230-522-11	s	RES, ADJ METAL 4.7K
RV204	1-230-522-11	s	RES, ADJ METAL 4.7K
RV205	1-241-765-11	s	RES, ADJ METAL 22k
RV206	1-238-019-11	s	RES, ADJ CARBON 47K
RV207	1-241-765-11	s	RES, ADJ METAL 22k
RV208	1-241-783-11	s	RES, ADJ METAL 2.2K
RV210	1-241-784-11	s	RES, ADJ METAL 4.7k
RV401	1-241-767-21	s	RES, ADJ METAL 100K
RV402	1-241-767-21	s	RES, ADJ METAL 100K
RV403	1-241-765-11	s	RES, ADJ METAL 22k
RV404	1-241-765-11	s	RES, ADJ METAL 22k
T401	1-433-330-11	s	TRANSFORMER, BIAS OSCILLATION

AU-190C BOARD / SVO-915P

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-321-A	o	MOUNTED CIRCUIT BOARD, AU-190C
C1	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C2	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C4	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C5	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C6	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C8	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C9	1-128-499-11	s	ELECT 220uF 20% 16V
C10	1-124-584-00	s	ELECT 100uF 20% 10V
C14	1-126-160-11	s	ELECT 1uF 20% 50V
C101	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C102	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C103	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C104	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C105	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C106	1-126-163-11	s	ELECT 4.7uF 20% 50V
C107	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C108	1-124-589-11	s	ELECT 47uF 20% 16V
C109	1-126-163-11	s	ELECT 4.7uF 20% 50V
C111	1-126-162-11	s	ELECT 3.3uF 20% 50V
C113	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C114	1-126-947-11	s	ELECT 47uF 20% 35V
C115	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C116	1-126-163-11	s	ELECT 4.7uF 20% 50V
C117	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C118	1-124-239-00	s	ELECT 6.8uF 20% 25V
C119	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C120	1-126-947-11	s	ELECT 47uF 20% 35V
C121	1-126-157-11	s	ELECT 10uF 20% 16V
C122	1-126-934-11	s	ELECT 220uF 20% 16V
C124	1-124-589-11	s	ELECT 47uF 20% 16V
C125	1-126-157-11	s	ELECT 10uF 20% 16V
C126	1-124-589-11	s	ELECT 47uF 20% 16V
C127	1-124-589-11	s	ELECT 47uF 20% 16V
C128	1-163-145-00	s	CERAMIC, CHIP 0.0015uF 5% 50V
C131	1-126-163-11	s	ELECT 4.7uF 20% 50V
C133	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C135	1-126-160-11	s	ELECT 1uF 20% 50V
C136	1-126-163-11	s	ELECT 4.7uF 20% 50V
C137	1-124-234-00	s	ELECT 22uF 20% 16V
C138	1-126-947-11	s	ELECT 47uF 20% 35V
C139	1-126-163-11	s	ELECT 4.7uF 20% 50V
C140	1-126-163-11	s	ELECT 4.7uF 20% 50V
C141	1-124-584-00	s	ELECT 100uF 20% 10V
C142	1-131-587-11	s	TANTALUM 0.68uF 5% 35V
C143	1-126-163-11	s	ELECT 4.7uF 20% 50V
C144	1-126-163-11	s	ELECT 4.7uF 20% 50V
C145	1-126-163-11	s	ELECT 4.7uF 20% 50V
C147	1-130-486-00	s	MYLAR 0.018uF 10% 50V
C149	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C152	1-124-589-11	s	ELECT 47uF 20% 16V
C153	1-126-157-11	s	ELECT 10uF 20% 16V
C154	1-126-157-11	s	ELECT 10uF 20% 16V
C155	1-126-163-11	s	ELECT 4.7uF 20% 50V
C156	1-126-163-11	s	ELECT 4.7uF 20% 50V
C157	1-126-163-11	s	ELECT 4.7uF 20% 50V
C158	1-136-437-11	s	FILM 220PF 5% 630V
C159	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C160	1-126-163-11	s	ELECT 4.7uF 20% 50V
C161	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C163	1-124-589-11	s	ELECT 47uF 20% 16V
C164	1-124-589-11	s	ELECT 47uF 20% 16V
C165	1-130-477-00	s	MYLAR 0.0033uF 5% 50V
C167	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C170	1-124-589-11	s	ELECT 47uF 20% 16V
C201	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C202	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C203	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C204	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C205	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C206	1-126-163-11	s	ELECT 4.7uF 20% 50V
C207	1-135-155-21	s	TANTALUM, CHIP 4.7uF 10% 16V
C208	1-124-589-11	s	ELECT 47uF 20% 16V
C209	1-126-163-11	s	ELECT 4.7uF 20% 50V
C211	1-126-162-11	s	ELECT 3.3uF 20% 50V
C213	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C214	1-126-163-11	s	ELECT 4.7uF 20% 50V
C215	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C216	1-124-239-00	s	ELECT 6.8uF 20% 25V
C217	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C218	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C221	1-126-157-11	s	ELECT 10uF 20% 16V
C222	1-126-934-11	s	ELECT 220uF 20% 16V
C224	1-124-589-11	s	ELECT 47uF 20% 16V
C225	1-126-157-11	s	ELECT 10uF 20% 16V
C226	1-124-589-11	s	ELECT 47uF 20% 16V
C228	1-163-145-00	s	CERAMIC, CHIP 0.0015uF 5% 50V
C231	1-126-163-11	s	ELECT 4.7uF 20% 50V
C233	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C235	1-126-160-11	s	ELECT 1uF 20% 50V
C236	1-126-163-11	s	ELECT 4.7uF 20% 50V
C237	1-124-234-00	s	ELECT 22uF 20% 16V
C238	1-126-947-11	s	ELECT 47uF 20% 35V
C239	1-126-163-11	s	ELECT 4.7uF 20% 50V
C240	1-126-163-11	s	ELECT 4.7uF 20% 50V
C242	1-131-587-11	s	TANTALUM 0.68uF 5% 35V
C243	1-126-163-11	s	ELECT 4.7uF 20% 50V
C244	1-126-163-11	s	ELECT 4.7uF 20% 50V
C245	1-126-163-11	s	ELECT 4.7uF 20% 50V
C247	1-130-486-00	s	MYLAR 0.018uF 10% 50V
C249	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C252	1-124-589-11	s	ELECT 47uF 20% 16V
C253	1-126-157-11	s	ELECT 10uF 20% 16V
C254	1-126-157-11	s	ELECT 10uF 20% 16V
C255	1-126-163-11	s	ELECT 4.7uF 20% 50V
C257	1-126-163-11	s	ELECT 4.7uF 20% 50V
C258	1-136-437-11	s	FILM 220PF 5% 630V
C259	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V
C260	1-126-163-11	s	ELECT 4.7uF 20% 50V
C263	1-124-589-11	s	ELECT 47uF 20% 16V
C264	1-124-589-11	s	ELECT 47uF 20% 16V
C265	1-130-477-00	s	MYLAR 0.0033uF 5% 50V
C267	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C270	1-124-589-11	s	ELECT 47uF 20% 16V
C301	1-124-257-00	s	ELECT 2.2uF 20% 50V
C302	1-124-257-00	s	ELECT 2.2uF 20% 50V
C305	1-126-157-11	s	ELECT 10uF 20% 16V

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Ref. No. or Q'ty	Part No.	SP	Description
C308	1-126-934-11	s	ELECT 220uF 20% 16V
C401	1-109-675-11	s	MICA 120PF 1% 500V
C402	1-109-675-11	s	MICA 120PF 1% 500V
C403	1-136-558-11	s	FILM 0.0039uF 5% 630V
C404	1-130-473-00	s	MYLAR 0.0015uF 5% 50V
C405	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C406	1-124-589-11	s	ELECT 47uF 20% 16V
C407	1-126-160-11	s	ELECT 1uF 20% 50V
C408	1-124-234-00	s	ELECT 22uF 20% 16V
CN302	1-564-002-41	s	CONNECTOR 3P, MALE
CN303	1-506-468-11	s	CONNECTOR 3P, MALE
CN304	1-564-002-11	s	CONNECTOR 3P, MALE
CN305	1-506-474-11	s	CONNECTOR 9P, MALE
CN308	1-506-471-11	s	CONNECTOR 6P, MALE
CN309	1-506-469-11	s	CONNECTOR 4P, MALE
CN310	1-506-471-11	s	CONNECTOR 6P, MALE
CN311	1-564-009-11	o	CONNECTOR 10P, MALE
CN312	1-506-475-11	s	CONNECTOR 10P, MALE
CN313	1-506-473-11	s	CONNECTOR 8P, MALE
CN315	1-564-002-11	s	CONNECTOR 3P, MALE
CN316	1-506-468-11	s	CONNECTOR 3P, MALE
CN319	1-506-469-11	s	CONNECTOR 4P, MALE
D4	8-719-801-78	s	DIODE 1SS184
D101	8-719-109-93	s	DIODE RD6.2ES-B2
D102	8-719-801-78	s	DIODE 1SS184
D104	8-719-801-78	s	DIODE 1SS184
D202	8-719-801-78	s	DIODE 1SS184
D301	8-719-801-78	s	DIODE 1SS184
D302	8-719-801-78	s	DIODE 1SS184
D401	8-719-110-14	s	DIODE RD9.1ESB3
D402	8-719-109-81	s	DIODE RD4.7ES-B2
FL101	1-236-570-11	s	FILTER, BAND-PASS 1.4MHz
FL102	1-239-008-11	s	FILTER, LOW-PASS
FL201	1-236-569-11	s	FILTER, BAND-PASS 1.8MHz
FL202	1-239-008-11	s	FILTER, LOW-PASS
IC1	8-759-420-15	s	IC AN3932S
IC2	8-759-420-18	s	IC AN3972FC
IC3	8-759-711-35	s	IC NJM4580D
IC4	8-759-168-19	s	IC TA78L09F-TE12L
IC5	8-752-057-20	s	IC CXA1102P
IC6	8-759-145-58	s	IC UPC4558C
IC7	8-759-987-91	s	IC BA10393
IC101	8-759-805-20	s	IC LA7297
IC102	8-759-145-58	s	IC UPC4558C
IC103	8-759-602-49	s	IC M5201P
IC201	8-759-805-20	s	IC LA7297
IC202	8-759-145-58	s	IC UPC4558C
IC203	8-759-602-49	s	IC M5201P
L2	1-410-482-31	s	INDUCTOR 100uH
L3	1-410-482-31	s	INDUCTOR 100uH
L101	1-410-088-21	s	INDUCTOR 12mH
L102	1-410-091-31	s	INDUCTOR 22mH
L201	1-410-088-21	s	INDUCTOR 12mH
L202	1-410-091-31	s	INDUCTOR 22mH
L401	1-410-120-11	s	INDUCTOR 1.2mH
Q6	8-729-901-06	s	TRANSISTOR DTA144EK
Q7	8-729-216-22	s	TRANSISTOR 2SA1162

(AU-190C BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
Q8	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q9	8-729-901-06	s	TRANSISTOR DTA144EK
Q10	8-729-901-01	s	TRANSISTOR DTC144EK
Q101	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q102	8-729-901-01	s	TRANSISTOR DTC144EK
Q110	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q113	8-729-901-06	s	TRANSISTOR DTA144EK
Q114	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q130	8-729-901-01	s	TRANSISTOR DTC144EK
Q201	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q202	8-729-901-01	s	TRANSISTOR DTC144EK
Q210	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q213	8-729-901-06	s	TRANSISTOR DTA144EK
Q214	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q230	8-729-901-01	s	TRANSISTOR DTC144EK
Q302	8-729-901-01	s	TRANSISTOR DTC144EK
Q303	8-729-901-01	s	TRANSISTOR DTC144EK
Q401	8-729-140-98	s	TRANSISTOR 2SD773-3
Q402	8-729-320-60	s	TRANSISTOR 2SD788-34
Q404	8-729-216-22	s	TRANSISTOR 2SA1162
Q405	8-729-230-49	s	TRANSISTOR 2SC2712-YG
R1	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R2	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R4	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R5	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R7	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R8	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R10	1-215-433-00	s	METAL 3.3K 1% 1/6W
R11	1-215-455-00	s	METAL 27K 1% 1/6W
R12	1-249-437-11	s	CARBON 47K 5% 1/4W
R13	1-249-429-11	s	CARBON 10K 5% 1/4W
R19	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R21	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R22	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R23	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R24	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R25	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R26	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R27	1-216-055-00	s	METAL, CHIP 1.8K 5% 1/10W
R28	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R29	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R30	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R31	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R32	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R33	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R101	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R102	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R103	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R104	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R105	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R106	1-215-449-00	s	METAL 15K 1% 1/6W
R107	1-215-445-00	s	METAL 10K 1% 1/6W
R108	1-215-447-00	s	METAL 12K 1% 1/6W
R110	1-215-447-00	s	METAL 12K 1% 1/6W
R113	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R117	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R118	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W

(AU-190C BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
R119	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R120	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R121	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R122	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R123	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R126	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R127	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R128	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R129	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R130	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R132	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R134	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R135	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R136	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R137	1-215-433-00	s	METAL 3.3K 1% 1/6W
R138	1-215-436-00	s	METAL 4.3K 1% 1/6W
R139	1-215-432-00	s	METAL 3K 1% 1/6W
R141	1-215-460-00	s	METAL 43K 1% 1/6W
R142	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R143	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R144	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R145	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R148	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R152	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R157	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R158	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R159	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R160	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R161	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R162	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R163	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R164	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R166	1-216-682-11	s	METAL, CHIP 20K 0.5% 1/10W
R167	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R169	1-216-668-11	s	METAL, CHIP 5.1K 0.5% 1/10W
R174	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R175	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R176	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R177	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R178	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R179	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R185	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R188	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R191	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R192	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R193	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R194	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R195	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R196	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R197	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R201	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R202	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R203	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R204	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R205	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R206	1-215-445-00	s	METAL 10K 1% 1/6W
R207	1-215-445-00	s	METAL 10K 1% 1/6W
R208	1-215-447-00	s	METAL 12K 1% 1/6W
R210	1-215-447-00	s	METAL 12K 1% 1/6W

(AU-190C BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
R217	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R218	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R219	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R220	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R222	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R223	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R226	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R227	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R228	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R229	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R230	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R232	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R234	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R235	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R236	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R237	1-215-433-00	s	METAL 3.3K 1% 1/6W
R238	1-215-436-00	s	METAL 4.3K 1% 1/6W
R239	1-215-432-00	s	METAL 3K 1% 1/6W
R242	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R243	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R244	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R245	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R248	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R252	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R257	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R258	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R259	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R260	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R261	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R262	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R263	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R264	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R267	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R274	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R276	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R277	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R278	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R279	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R285	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R288	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R291	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R292	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R293	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R294	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R295	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R296	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R297	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R302	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R304	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R305	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R306	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R308	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R309	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R312	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R313	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R321	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R322	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R333	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R401	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W

(AU-190C BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
R402	1-216-093-00	s	METAL, CHIP 68K 5% 1/10W
R403	1-249-381-11	s	CARBON 1 5% 1/4W
R404	1-249-381-11	s	CARBON 1 5% 1/4W
R405	1-249-429-11	s	CARBON 10K 5% 1/4W
R406	1-249-387-11	s	CARBON 3.3 5% 1/4W
R408	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R409	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R413	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R414	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R415	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R416	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R417	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
RJ1	1-216-295-00	s	METAL, CHIP 0
RJ2	1-216-295-00	s	METAL, CHIP 0
RJ3	1-216-295-00	s	METAL, CHIP 0
RV2	1-238-019-11	s	RES, ADJ CARBON 47K
RV101	1-241-763-11	s	RES, ADJ METAL 4.7k
RV102	1-241-763-11	s	RES, ADJ METAL 4.7k
RV103	1-230-522-11	s	RES, ADJ METAL 4.7K
RV104	1-230-522-11	s	RES, ADJ METAL 4.7K
RV105	1-241-765-11	s	RES, ADJ METAL 22k
RV106	1-238-019-11	s	RES, ADJ CARBON 47K
RV107	1-241-765-11	s	RES, ADJ METAL 22k
RV108	1-241-783-11	s	RES, ADJ METAL 2.2K
RV110	1-241-784-11	s	RES, ADJ METAL 4.7k
RV201	1-241-763-11	s	RES, ADJ METAL 4.7k
RV202	1-241-763-11	s	RES, ADJ METAL 4.7k
RV203	1-230-522-11	s	RES, ADJ METAL 4.7K
RV204	1-230-522-11	s	RES, ADJ METAL 4.7K
RV205	1-241-765-11	s	RES, ADJ METAL 22k
RV206	1-238-019-11	s	RES, ADJ CARBON 47K
RV207	1-241-765-11	s	RES, ADJ METAL 22k
RV208	1-241-783-11	s	RES, ADJ METAL 2.2K
RV210	1-241-784-11	s	RES, ADJ METAL 4.7k
RV401	1-241-767-21	s	RES, ADJ METAL 100K
RV402	1-241-767-21	s	RES, ADJ METAL 100K
RV403	1-241-765-11	s	RES, ADJ METAL 22k
RV404	1-241-765-11	s	RES, ADJ METAL 22k
T401	1-433-330-11	s	TRANSFORMER, BIAS OSCILLATION

CM-14 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
CN001	1-506-482-11	s	CONNECTOR 3P, MALE

CP-151 BOARD / SVO-965P

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6756-188-A	o	MOUNTED CIRCUIT BOARD, CP-151
C101	1-124-584-00	s	ELECT 100uF 20% 10V
C102	1-126-163-11	s	ELECT 4.7uF 20% 50V
C103	1-126-163-11	s	ELECT 4.7uF 20% 50V
C104	1-126-163-11	s	ELECT 4.7uF 20% 50V
C105	1-126-163-11	s	ELECT 4.7uF 20% 50V
C106	1-126-157-11	s	ELECT 10uF 20% 16V
C107	1-126-157-11	s	ELECT 10uF 20% 16V
C108	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C402	1-126-154-11	s	ELECT 47uF 20% 6.3V
C403	1-161-375-00	s	CERAMIC 0.0022uF 20% 50V
C501	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C502	1-124-589-11	s	ELECT 47uF 20% 16V
C503	1-124-584-00	s	ELECT 100uF 20% 10V
CN501	1-506-483-21	o	CONNECTOR, 4P, MALE
CN502	1-506-485-11	s	CONNECTOR 6P, MALE
CN503	1-506-485-11	s	CONNECTOR 6P, MALE
CN504	1-506-484-11	s	CONNECTOR 5P, MALE
CN505	1-564-013-11	o	CONNECTOR 3P, MALE
CN506	1-564-013-41	s	CONNECTOR 3P, MALE
CN510	1-507-914-11	s	JACK, 6-PIN 2P, FEMALE
CN511	1-580-703-11	s	JACK, 6-PHONE, FEMALE
CN512	1-564-013-21	s	CONNECTOR 3P, MALE
CN513	1-750-089-11	s	CONNECTOR, 3-BNC, FEMALE
D101	8-719-109-93	s	DIODE RD6.2ES-B2
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-911-19	s	DIODE 1SS119
D305	8-719-911-19	s	DIODE 1SS119
D306	8-719-911-19	s	DIODE 1SS119
D401	8-719-911-19	s	DIODE 1SS119
D402	8-719-911-19	s	DIODE 1SS119
IC101	8-759-711-82	s	IC NJM4580E
IC102	8-759-711-82	s	IC NJM4580E
IC201	8-759-700-48	s	IC NJM2903S
IC202	8-759-700-48	s	IC NJM2903S
L501	1-410-482-31	s	INDUCTOR 100uH
Q501	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R101	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R102	1-249-437-11	s	CARBON 47K 5% 1/4W
R103	1-249-441-11	s	CARBON 100K 5% 1/4W
R104	1-249-437-11	s	CARBON 47K 5% 1/4W
R105	1-249-441-11	s	CARBON 100K 5% 1/4W
R106	1-249-437-11	s	CARBON 47K 5% 1/4W
R107	1-249-441-11	s	CARBON 100K 5% 1/4W
R108	1-249-437-11	s	CARBON 47K 5% 1/4W
R109	1-249-441-11	s	CARBON 100K 5% 1/4W
R403	1-249-435-11	s	CARBON 33K 5% 1/4W
R404	1-249-429-11	s	CARBON 10K 5% 1/4W
R405	1-247-897-11	s	CARBON 560K 5% 1/4W
R406	1-249-429-11	s	CARBON 10K 5% 1/4W
R407	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R408	1-249-431-11	s	CARBON 15K 5% 1/4W
R409	1-249-429-11	s	CARBON 10K 5% 1/4W
R410	1-249-429-11	s	CARBON 10K 5% 1/4W
R411	1-247-903-00	s	CARBON 1M 5% 1/4W
R412	1-249-429-11	s	CARBON 10K 5% 1/4W
R413	1-249-429-11	s	CARBON 10K 5% 1/4W
R501	1-249-399-11	s	CARBON 33 5% 1/4W
R502	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R503	1-247-807-31	s	CARBON 100 5% 1/4W
R504	1-249-433-11	s	CARBON 22K 5% 1/4W
R505	1-249-433-11	s	CARBON 22K 5% 1/4W
R523	1-215-394-00	s	METAL 75 1% 1/6W
RY401	1-515-614-11	s	RELAY
S101	1-553-510-00	s	SWITCH, SLIDE
S102	1-570-756-11	s	SWITCH, SLIDE
S503	1-570-145-11	s	SWITCH, SLIDE

CP-151A BOARD / SVO-915P

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-326-A	o	MOUNTED CIRCUIT BOARD, CP-151A
C101	1-124-584-00	s	ELECT 100uF 20% 10V
C102	1-126-163-11	s	ELECT 4.7uF 20% 50V
C103	1-126-163-11	s	ELECT 4.7uF 20% 50V
C104	1-126-163-11	s	ELECT 4.7uF 20% 50V
C105	1-126-163-11	s	ELECT 4.7uF 20% 50V
C106	1-126-157-11	s	ELECT 10uF 20% 16V
C107	1-126-157-11	s	ELECT 10uF 20% 16V
C108	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C402	1-126-154-11	s	ELECT 47uF 20% 6.3V
C403	1-161-375-00	s	CERAMIC 0.0022uF 20% 50V
C501	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C502	1-124-589-11	s	ELECT 47uF 20% 16V
C503	1-124-584-00	s	ELECT 100uF 20% 10V
CN501	1-506-483-21	o	CONNECTOR, 4P, MALE
CN502	1-506-485-11	s	CONNECTOR 6P, MALE
CN503	1-506-485-11	s	CONNECTOR 6P, MALE
CN505	1-564-013-11	o	CONNECTOR 3P, MALE
CN510	1-507-914-11	s	JACK, 6-PIN 2P, FEMALE
CN511	1-580-703-11	s	JACK, 6-PHONE, FEMALE
CN512	1-564-013-21	s	CONNECTOR 3P, MALE
CN513	1-764-313-11	s	CONNECTOR, 2-BNC, FEMALE
D101	8-719-109-93	s	DIODE RD6.2ES-B2
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-911-19	s	DIODE 1SS119
D305	8-719-911-19	s	DIODE 1SS119
D306	8-719-911-19	s	DIODE 1SS119
D401	8-719-911-19	s	DIODE 1SS119
D402	8-719-911-19	s	DIODE 1SS119
IC101	8-759-711-82	s	IC NJM4580E
IC102	8-759-711-82	s	IC NJM4580E
IC201	8-759-700-48	s	IC NJM2903S
IC202	8-759-700-48	s	IC NJM2903S
L501	1-410-482-31	s	INDUCTOR 100uH
Q501	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R101	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R102	1-249-437-11	s	CARBON 47K 5% 1/4W
R103	1-249-441-11	s	CARBON 100K 5% 1/4W
R104	1-249-437-11	s	CARBON 47K 5% 1/4W
R105	1-249-441-11	s	CARBON 100K 5% 1/4W
R106	1-249-437-11	s	CARBON 47K 5% 1/4W
R107	1-249-441-11	s	CARBON 100K 5% 1/4W
R108	1-249-437-11	s	CARBON 47K 5% 1/4W
R109	1-249-441-11	s	CARBON 100K 5% 1/4W
R403	1-249-435-11	s	CARBON 33K 5% 1/4W
R404	1-249-429-11	s	CARBON 10K 5% 1/4W
R405	1-247-897-11	s	CARBON 560K 5% 1/4W
R406	1-249-429-11	s	CARBON 10K 5% 1/4W
R407	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R408	1-249-431-11	s	CARBON 15K 5% 1/4W
R409	1-249-429-11	s	CARBON 10K 5% 1/4W
R410	1-249-429-11	s	CARBON 10K 5% 1/4W
R411	1-247-903-00	s	CARBON 1M 5% 1/4W
R412	1-249-429-11	s	CARBON 10K 5% 1/4W
R413	1-249-429-11	s	CARBON 10K 5% 1/4W
R501	1-249-399-11	s	CARBON 33 5% 1/4W
R502	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R503	1-247-807-31	s	CARBON 100 5% 1/4W
R504	1-249-433-11	s	CARBON 22K 5% 1/4W
R505	1-249-433-11	s	CARBON 22K 5% 1/4W
R523	1-215-394-00	s	METAL 75 1% 1/6W
RY401	1-515-614-11	s	RELAY
S101	1-553-510-00	s	SWITCH, SLIDE
S102	1-570-756-11	s	SWITCH, SLIDE
S503	1-570-145-11	s	SWITCH, SLIDE

DL-44 BOARD / SVO-965P

All of the component parts on the DL-44 board are supplied together with when you order VO-48 board.

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6726-317-A	o	MOUNTED CIRCUIT BOARD, DL-44
C141	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C142	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C143	1-124-589-11	s	ELECT 47uF 20% 16V
C144	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C145	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C146	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C147	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C148	1-124-589-11	s	ELECT 47uF 20% 16V
C149	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C150	1-124-589-11	s	ELECT 47uF 20% 16V
C151	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C152	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C153	1-163-253-11	s	CERAMIC, CHIP 120PF 5% 50V
C154	1-163-125-00	s	CERAMIC, CHIP 220PF 5% 50V
C155	1-126-163-11	s	ELECT 4.7uF 20% 50V
CF101	1-527-849-00	s	FILTER, BAND-PASS 4.433619MHz
CN101	1-569-383-11	o	CONNECTOR, 6P, FEMALE
IC102	8-752-321-89	s	IC CXL5003P
L111	1-408-408-00	s	INDUCTOR 8.2uH
L112	1-410-470-11	s	INDUCTOR 10uH
L113	1-410-482-31	s	INDUCTOR 100uH
L114	1-410-482-31	s	INDUCTOR 100uH
L115	1-410-471-11	s	INDUCTOR 12uH
L116	1-408-413-00	s	INDUCTOR 22uH
Q114	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q115	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q116	8-729-216-22	s	TRANSISTOR 2SA1162
Q117	8-729-216-22	s	TRANSISTOR 2SA1162
Q118	8-729-216-22	s	TRANSISTOR 2SA1162
R143	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R144	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R145	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R146	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R147	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R148	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R149	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R150	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R151	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R152	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R153	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R154	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R155	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
RV106	1-241-761-11	s	RES, ADJ METAL 1k

HN-198 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-650-152-11	o	PRINTED CIRCUIT BOARD, HN-198
1pc	3-167-013-02	o	HOLDER, ST SENSOR
1pc	3-167-028-02	o	HOLDER, D
1pc	1-650-155-11	o	PRINTED CIRCUIT BOARD, SW-668
CN655	1-506-484-11	s	CONNECTOR 5P, MALE
CN656	1-564-013-11	o	CONNECTOR 3P, MALE
CN657	1-506-484-11	s	CONNECTOR 5P, MALE
CN658	1-506-487-11	s	CONNECTOR 8P, MALE
D1	8-719-985-00	s	LED GL451VS1, INFRARED
Q1	8-729-926-31	s	PHOTO TRANSISTOR PT483F1S
S1	1-570-953-11	s	SWITCH, PUSH (1 KEY)
S2	1-570-953-11	s	SWITCH, PUSH (1 KEY)

KY-194A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6717-609-A	o	MOUNTED CIRCUIT BOARD, KY-194A
1pc	3-168-160-01	o	BRACKET, 9P
1pc	3-168-165-01	o	HOLDER (SMALL), LED
1pc	3-168-164-01	o	HOLDER (LARGE), LED
2pcs	7-685-870-09	s	SCREW +BVTT 3X5 (S)
1pc	4-612-636-01	s	SCREW, CONNECTOR FITTING
C101	1-124-589-11	s	ELECT 47uF 20% 16V
C102	1-124-589-11	s	ELECT 47uF 20% 16V
C103	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C104	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C105	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C106	1-124-589-11	s	ELECT 47uF 20% 16V
C107	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C108	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C109	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C110	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C111	1-162-215-31	s	CERAMIC 47PF 5% 50V
C112	1-163-019-00	s	CERAMIC, CHIP 0.0068uF 10% 50V
CN151	1-506-484-11	s	CONNECTOR 5P, MALE
CN152	1-506-484-11	s	CONNECTOR 5P, MALE
CN153	1-564-013-21	s	CONNECTOR 3P, MALE
CN154	1-563-890-21	s	CONNECTOR, D-SUB 9P, FEMALE
D101	8-719-801-78	s	DIODE 1SS184
D103	8-719-801-78	s	DIODE 1SS184
D105	8-719-801-78	s	DIODE 1SS184
D106	8-719-801-78	s	DIODE 1SS184
D107	8-719-801-78	s	DIODE 1SS184
D110	8-719-938-67	s	LED GL3EG8, GRN
D111	8-719-938-67	s	LED GL3EG8, GRN
D112	8-719-938-67	s	LED GL3EG8, GRN
D113	8-719-938-67	s	LED GL3EG8, GRN
D117	8-719-940-99	s	LED SLR-34VC3, RED
D118	8-719-946-30	s	DIODE SLR-34DC3
D119	8-719-104-34	s	DIODE 1S2835
D120	8-719-104-34	s	DIODE 1S2835
D121	8-719-940-82	s	LED SLR-34MC3, GRN
D122	8-719-940-82	s	LED SLR-34MC3, GRN
D123	8-719-940-99	s	LED SLR-34VC3, RED
D124	8-719-940-99	s	LED SLR-34VC3, RED
D125	8-719-946-30	s	DIODE SLR-34DC3
D126	8-719-946-30	s	DIODE SLR-34DC3
D127	8-719-940-82	s	LED SLR-34MC3, GRN
D128	8-719-801-78	s	DIODE 1SS184
IC101	8-759-248-30	s	IC MC68HC05C8B-SC405336B
IC102	8-759-245-99	s	IC TD62503F
IC103	8-759-245-99	s	IC TD62503F
ND101	8-719-948-06	s	LED LB-202ML, GRN
ND102	8-719-948-06	s	LED LB-202ML, GRN
ND103	8-719-948-06	s	LED LB-202ML, GRN
Q101	8-729-901-47	s	TRANSISTOR DTA143EK
Q102	8-729-901-47	s	TRANSISTOR DTA143EK
Q103	8-729-901-47	s	TRANSISTOR DTA143EK
Q104	8-729-901-47	s	TRANSISTOR DTA143EK
Q105	8-729-901-47	s	TRANSISTOR DTA143EK
Q106	8-729-901-47	s	TRANSISTOR DTA143EK
Q107	8-729-901-47	s	TRANSISTOR DTA143EK

(KY-194A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q108	8-729-901-47	s	TRANSISTOR DTA143EK
Q109	8-729-901-47	s	TRANSISTOR DTA143EK
Q110	8-729-901-47	s	TRANSISTOR DTA143EK
Q111	8-729-901-47	s	TRANSISTOR DTA143EK
Q112	8-729-901-47	s	TRANSISTOR DTA143EK
Q113	8-729-901-47	s	TRANSISTOR DTA143EK
Q114	8-729-216-22	s	TRANSISTOR 2SA1162
Q115	8-729-901-01	s	TRANSISTOR DTC144EK
Q116	8-729-901-06	s	TRANSISTOR DTA144EK
Q117	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q118	8-729-216-22	s	TRANSISTOR 2SA1162
Q119	8-729-901-01	s	TRANSISTOR DTC144EK
Q120	8-729-901-04	s	TRANSISTOR DTA114EK
Q121	8-729-230-49	s	TRANSISTOR 2SC2712-YG
R101	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R102	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R103	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R104	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R105	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R106	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R107	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R108	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R109	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R110	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R111	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R112	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R113	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R114	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R115	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R116	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R118	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R121	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R124	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R127	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R130	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R133	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R136	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R151	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R152	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R153	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R154	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R156	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R157	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R158	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R159	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R163	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R164	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R165	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R166	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R167	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R168	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R169	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R170	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R171	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R172	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R175	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R176	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R177	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R178	1-216-025-00	s	METAL, CHIP 100 5% 1/10W

(KY-194A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R179	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R180	1-216-035-00	s	METAL, CHIP 270 5% 1/10W
R181	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R182	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R183	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R184	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R185	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R186	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R187	1-247-855-11	s	CARBON 10K 5% 1/4W
S101	1-570-472-11	s	SWITCH, KEYBOARD
S102	1-570-472-11	s	SWITCH, KEYBOARD
S103	1-570-472-11	s	SWITCH, KEYBOARD
S104	1-570-472-11	s	SWITCH, KEYBOARD
S105	1-570-472-11	s	SWITCH, KEYBOARD
S106	1-570-835-11	s	SWITCH, SLIDE
S107	1-570-835-11	s	SWITCH, SLIDE
X101	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

LD-35 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
CN620	1-506-481-11	s	CONNECTOR 2P, MALE
M1005	X-3165-593-3	o	MOTOR ASS'Y, CAM

LE-131 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-650-346-11	o	PRINTED CIRCUIT BOARD, LE-131
D1	8-719-821-22	s	LED TL0221, ORG

PTC-73 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8274-306-A	o	MOUNTED PCB, PTC-73
CN611	1-506-484-11	s	CONNECTOR 5P, MALE
PH1	8-719-939-11	s	PHOTOINTERRUPTER GP-2S09-B
PH2	8-719-939-11	s	PHOTOINTERRUPTER GP-2S09-B
PH3	8-719-939-11	s	PHOTOINTERRUPTER GP-2S09-B

RP-77 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-325-A	o	MOUNTED CIRCUIT BOARD, RP-77
1pc	3-168-166-01	o	SHIELD (FRONT), RP
C100	1-126-157-11	s	ELECT 10uF 20% 16V
C101	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C102	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C103	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C104	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C105	1-163-235-11	s	CERAMIC, CHIP 22PF 5% 50V
C106	1-163-235-11	s	CERAMIC, CHIP 22PF 5% 50V
C107	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C108	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C109	1-126-160-11	s	ELECT 1uF 20% 50V
C110	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C111	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C112	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V
C113	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C114	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C115	1-126-157-11	s	ELECT 10uF 20% 16V
C116	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C117	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C118	1-124-589-11	s	ELECT 47uF 20% 16V
C119	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C120	1-163-143-00	s	CERAMIC, CHIP 0.0012uF 5% 50V
C121	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C122	1-126-160-11	s	ELECT 1uF 20% 50V
C123	1-124-465-00	s	ELECT 0.47uF 20% 50V
C800	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C801	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C802	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C804	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C805	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C807	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C808	1-124-589-11	s	ELECT 47uF 20% 16V
C809	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C810	1-162-568-11	s	CERAMIC, CHIP 0.33uF 25V
C811	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C812	1-124-584-00	s	ELECT 100uF 20% 10V
C813	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C814	1-124-584-00	s	ELECT 100uF 20% 10V
C815	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C817	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C818	1-163-241-11	s	CERAMIC, CHIP 39PF 5% 50V
C819	1-163-235-11	s	CERAMIC, CHIP 22PF 5% 50V
C820	1-163-091-00	s	CERAMIC, CHIP 8PF 50V
C821	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C822	1-163-245-11	s	CERAMIC, CHIP 56PF 5% 50V
C823	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C824	1-163-237-11	s	CERAMIC, CHIP 27PF 5% 50V
C825	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C826	1-163-137-00	s	CERAMIC, CHIP 680PF 5% 50V
C827	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C828	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C829	1-126-154-11	s	ELECT 47uF 20% 6.3V
C830	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C831	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C833	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C835	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
CN801	1-563-590-11	o	CONNECTOR, FPC 13P

(RP-77 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
CN802	1-506-490-21	s	CONNECTOR, 11P MALE (ANGLE TYPE)
CN803	1-564-013-11	o	CONNECTOR 3P, MALE
CN804	1-564-031-00	o	CONNECTOR 6P, MALE
CN805	1-506-485-11	s	CONNECTOR 6P, MALE
D101	8-719-801-78	s	DIODE 1SS184
D801	8-719-801-78	s	DIODE 1SS184
IC101	8-759-320-55	s	IC HA12115MP
IC801	8-759-046-75	s	IC HA118162NT
L101	1-408-982-11	s	INDUCTOR 100uH
L102	1-408-982-11	s	INDUCTOR 100uH
L801	1-408-948-00	s	INDUCTOR 220UH
L802	1-408-982-11	s	INDUCTOR 100uH
L803	1-408-982-11	s	INDUCTOR 100uH
L804	1-408-982-11	s	INDUCTOR 100uH
L807	1-408-975-21	s	INDUCTOR 27uH
L808	1-408-971-21	s	INDUCTOR 12UH
L809	1-408-968-21	s	INDUCTOR 6.8UH
L810	1-408-982-11	s	INDUCTOR 100uH
L811	1-408-982-11	s	INDUCTOR 100uH
Q100	8-729-216-22	s	TRANSISTOR 2SA1162
Q101	8-729-301-98	s	TRANSISTOR 2SB1000A-L
Q102	8-729-901-01	s	TRANSISTOR DTC144EK
Q110	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q801	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q802	8-729-216-22	s	TRANSISTOR 2SA1162
Q803	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q804	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q805	8-729-901-06	s	TRANSISTOR DTA144EK
Q806	8-729-301-98	s	TRANSISTOR 2SB1000A-L
Q807	8-729-901-01	s	TRANSISTOR DTC144EK
Q808	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q901	8-729-202-38	s	TRANSISTOR 2SC3326N
Q902	8-729-202-38	s	TRANSISTOR 2SC3326N
R100	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R101	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R102	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R103	1-216-295-00	s	METAL, CHIP 0
R104	1-216-295-00	s	METAL, CHIP 0
R105	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R106	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R107	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R108	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R109	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R110	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R111	1-216-019-00	s	METAL, CHIP 56 5% 1/10W
R112	1-216-079-00	s	METAL, CHIP 18K 5% 1/10W
R113	1-216-304-11	s	METAL, CHIP 3.3 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R116	1-216-304-11	s	METAL, CHIP 3.3 5% 1/10W
R801	1-216-043-00	s	METAL, CHIP 560 5% 1/10W
R802	1-216-023-00	s	METAL, CHIP 82 5% 1/10W
R803	1-216-614-11	s	METAL, CHIP 30 0.50% 1/10W
R804	1-216-023-00	s	METAL, CHIP 82 5% 1/10W
R805	1-216-614-11	s	METAL, CHIP 30 0.50% 1/10W
R806	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R807	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W

(RP-77 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R809	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R810	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R811	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R812	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R814	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R817	1-216-051-00	s	METAL, CHIP 1.2K 5% 1/10W
R818	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R819	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R820	1-216-091-00	s	METAL, CHIP 56K 5% 1/10W
R821	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R822	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R823	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R824	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R825	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R826	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R827	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R828	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R829	1-216-628-11	s	METAL, CHIP 110 0.5% 1/10W
R830	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R831	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R832	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R834	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R835	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R901	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R902	1-216-629-11	s	METAL, CHIP 120 0.5% 1/10W
R903	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R904	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
RV1	1-241-784-11	s	RES, ADJ METAL 4.7k
S1	1-571-275-31	s	SWITCH, SLIDE

SE-224 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-650-153-11	o	PRINTED CIRCUIT BOARD, SE-224
1pc	3-167-013-02	o	HOLDER, ST SENSOR
CN601	1-564-001-11	o	CONNECTOR 2P, MALE
Q1	8-729-926-31	s	PHOTO TRANSISTOR PT483F1S

SE-230 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-650-347-11	o	PRINTED CIRCUIT BOARD, SE-230
PC1	1-806-232-21	s	DETECTOR MB-1102/S.N

SS-59B BOARD / SVO-965P, EK

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-329-A	o	MOUNTED CIRCUIT BOARD, SS-59B
2pcs	1-533-189-11	s	HOLDER, FUSE
1pc	1-566-095-11	s	CONNECTOR, BB 11P, MALE
3pcs	3-682-057-11	s	SPACER (SMALL)
1pc	1-952-739-11	o	HARNESS, SUB (VIDEO)
1pc	1-952-731-12	o	HARNESS (MECHA)
1pc	1-952-729-11	o	HARNESS (FRONT)
1pc	1-952-730-11	o	HARNESS (CENTER)
1pc	1-952-732-11	o	HARNESS (CENTER2)
C103	1-125-498-11	s	DOUBLE LAYERS 1F 5.5V
C104	1-161-494-00	s	CERAMIC 0.022uF 25V
C105	1-124-916-11	s	ELECT 22uF 20% 63V
C106	1-126-933-11	s	ELECT 100uF 20% 16V
C107	1-126-157-11	s	ELECT 10uF 20% 16V
C108	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C109	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C110	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C111	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C112	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C113	1-124-126-00	s	ELECT 47uF 20% 25V
C114	1-104-664-11	s	ELECT 47uF 20% 25V
C115	1-124-126-00	s	ELECT 47uF 20% 25V
C116	1-124-927-11	s	ELECT 4.7uF 20% 100V
C119	1-124-925-11	s	ELECT 2.2uF 20% 100V
C120	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C121	1-162-290-31	s	CERAMIC 470PF 10% 50V
C122	1-162-203-31	s	CERAMIC 15PF 5% 50V
C123	1-162-203-31	s	CERAMIC 15PF 5% 50V
C124	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C125	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C126	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C128	1-104-664-11	s	ELECT 47uF 20% 25V
C129	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C130	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C139	1-104-664-11	s	ELECT 47uF 20% 25V
C140	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C141	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C144	1-161-494-00	s	CERAMIC 0.022uF 25V
C146	1-124-126-00	s	ELECT 47uF 20% 25V
C147	1-161-494-00	s	CERAMIC 0.022uF 25V
C148	1-161-494-00	s	CERAMIC 0.022uF 25V
C149	1-126-157-11	s	ELECT 10uF 20% 16V
C150	1-162-290-31	s	CERAMIC 470PF 10% 50V
C302	1-123-382-00	s	ELECT 3.3uF 20% 100V
C303	1-123-382-00	s	ELECT 3.3uF 20% 100V
C304	1-126-157-11	s	ELECT 10uF 20% 16V
C305	1-126-157-11	s	ELECT 10uF 20% 16V
C306	1-123-382-00	s	ELECT 3.3uF 20% 100V
C307	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C308	1-124-126-00	s	ELECT 47uF 20% 25V
C309	1-104-664-11	s	ELECT 47uF 20% 25V
C310	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C311	1-126-966-11	s	ELECT 33uF 20% 50V
C312	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C313	1-126-966-11	s	ELECT 33uF 20% 50V
C314	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C315	1-126-966-11	s	ELECT 33uF 20% 50V
C316	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C317	1-126-966-11	s	ELECT 33uF 20% 50V

(SS-59B BOARD / SVO-965P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
C318	1-124-903-11	s	ELECT 1uF 20% 50V
C319	1-124-903-11	s	ELECT 1uF 20% 50V
C320	1-124-126-00	s	ELECT 47uF 20% 25V
C321	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C322	1-162-288-31	s	CERAMIC 330PF 10% 50V
C323	1-162-286-31	s	CERAMIC 220PF 10% 50V
C324	1-162-290-31	s	CERAMIC 470PF 10% 50V
C325	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C326	1-162-290-31	s	CERAMIC 470PF 10% 50V
C327	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C328	1-104-665-11	s	ELECT 100uF 20% 25V
C329	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C330	1-104-666-11	s	ELECT 220uF 20% 25V
C331	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C332	1-162-290-31	s	CERAMIC 470PF 10% 50V
C333	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C334	1-104-665-11	s	ELECT 100uF 20% 25V
C335	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C336	1-104-666-11	s	ELECT 220uF 20% 25V
C337	1-126-768-11	s	ELECT 2200uF 20% 16V
C338	1-104-664-11	s	ELECT 47uF 20% 25V
C339	1-124-902-00	s	ELECT 0.47uF 20% 50V
C340	1-124-902-00	s	ELECT 0.47uF 20% 50V
C341	1-162-210-31	s	CERAMIC 30PF 5% 50V
C342	1-162-210-31	s	CERAMIC 30PF 5% 50V
C343	1-162-290-31	s	CERAMIC 470PF 10% 50V
C344	1-161-494-00	s	CERAMIC 0.022uF 25V
C345	1-161-494-00	s	CERAMIC 0.022uF 25V
C346	1-161-494-00	s	CERAMIC 0.022uF 25V
C347	1-161-494-00	s	CERAMIC 0.022uF 25V
C348	1-161-494-00	s	CERAMIC 0.022uF 25V
C350	1-161-494-00	s	CERAMIC 0.022uF 25V
C351	1-124-126-00	s	ELECT 47uF 20% 25V
C500	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C501	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C502	1-126-947-11	s	ELECT 47uF 20% 35V
C503	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C504	1-124-927-11	s	ELECT 4.7uF 20% 100V
C505	1-124-927-11	s	ELECT 4.7uF 20% 100V
C506	1-124-499-11	s	ELECT, NONPOLAR 1uF 20% 50V
C507	1-124-903-11	s	ELECT 1uF 20% 50V
C508	1-124-126-00	s	ELECT 47uF 20% 25V
C509	1-162-282-31	s	CERAMIC 100PF 10% 50V
C510	1-162-199-31	s	CERAMIC 10PF 5% 50V
C519	1-162-284-31	s	CERAMIC 150PF 10% 50V
C520	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C521	1-162-283-31	s	CERAMIC 120PF 10% 50V
C522	1-162-219-31	s	CERAMIC 68PF 5% 50V
C523	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C524	1-124-902-00	s	ELECT 0.47uF 20% 50V
C525	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C526	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C527	1-104-665-11	s	ELECT 100uF 20% 25V
C530	1-161-494-00	s	CERAMIC 0.022uF 25V
C531	1-161-494-00	s	CERAMIC 0.022uF 25V
C532	1-126-157-11	s	ELECT 10uF 20% 16V
C533	1-126-157-11	s	ELECT 10uF 20% 16V
C601	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C602	1-130-483-00	s	MYLAR 0.01uF 5% 50V

(SS-59B BOARD / SVO-965P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
C603	1-124-903-11	s	ELECT 1uF 20% 50V
C604	1-162-290-31	s	CERAMIC 470PF 10% 50V
C605	1-162-290-31	s	CERAMIC 470PF 10% 50V
CN100	1-560-898-00	o	CONNECTOR 10P, MALE
CN106	1-952-737-11	o	HARNESS, SUB (LD)
CN107	1-564-002-11	s	CONNECTOR 3P, MALE
CN110	1-506-471-11	s	CONNECTOR 6P, MALE
CN114	1-506-475-11	s	CONNECTOR 10P, MALE
CN116	1-506-471-11	s	CONNECTOR 6P, MALE
CN122	1-952-736-11	o	HARNESS, SUB (CAP)
CN140	1-952-735-11	o	HARNESS, SUB (AFM VCC)
CN141	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
CN142	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
D104	8-719-200-02	s	DIODE 10E2
D105	8-719-200-02	s	DIODE 10E2
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-109-93	s	DIODE RD6.2ES-B2
D108	8-719-911-19	s	DIODE 1SS119
D109	8-719-911-19	s	DIODE 1SS119
D110	8-719-911-19	s	DIODE 1SS119
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-109-84	s	DIODE RD5.1ES-B1
D308	8-719-911-19	s	DIODE 1SS119
D309	8-719-911-19	s	DIODE 1SS119
D310	8-719-110-14	s	DIODE RD9.1ESB3
D311	8-719-981-00	s	DIODE ERC81-004
D312	8-719-981-00	s	DIODE ERC81-004
D313	8-719-200-02	s	DIODE 10E2
D314	8-719-200-02	s	DIODE 10E2
D315	8-719-911-19	s	DIODE 1SS119
D316	8-719-911-19	s	DIODE 1SS119
D317	8-719-911-19	s	DIODE 1SS119
D318	8-719-160-68	s	DIODE RD18FB2
D319	8-719-911-19	s	DIODE 1SS119
D320	8-719-109-76	s	DIODE RD4.3ES-B3
D321	8-719-115-53	s	DIODE RD6.2JS-T1B1
D322	8-719-110-17	s	DIODE RD10ES-B2
F101	⚠1-576-228-11	s	FUSE 2A 250V
IC101	8-752-850-82	s	IC CXP80116-884Q
IC102	8-759-183-16	s	IC BR9021B
IC104	8-759-512-71	s	IC S-8054HNM
IC106	8-759-981-96	s	IC RC4560D
IC107	8-759-987-91	s	IC BA10393
IC108	8-759-135-80	s	IC UPC358C
IC109	8-759-983-45	s	IC BA6238A
IC111	8-759-512-71	s	IC S-8054HNM
IC301	8-759-135-80	s	IC UPC358C
IC302	8-759-135-80	s	IC UPC358C
IC303	8-759-140-53	s	IC UPD4053BC
IC304	8-759-984-03	s	IC LM339N
IC305	8-759-984-03	s	IC LM339N
IC306	8-759-154-19	s	IC UPD75106CW-184
IC307	8-759-340-13	s	IC HD14013BP
IC308	8-759-045-38	s	IC MC14538BCP
IC310	8-759-135-80	s	IC UPC358C
IC500	8-759-632-58	s	IC M52435P
IC503	8-759-140-53	s	IC UPD4053BC

(SS-59B BOARD / SVO-965P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
IC601	8-759-987-91	s	IC BA10393
L101	1-410-482-31	s	INDUCTOR 100uH
L301	1-408-519-00	s	COIL, CHOKE
L302	1-408-519-00	s	COIL, CHOKE
L503	1-408-413-00	s	INDUCTOR 22uH
L504	1-410-482-31	s	INDUCTOR 100uH
L505	1-408-413-00	s	INDUCTOR 22uH
PS101	⚠1-532-685-00	s	LINK, IC 0.6A
PS103	⚠1-532-637-00	s	LINK, IC 1.0A
Q100	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q101	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q102	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q105	8-729-119-76	s	TRANSISTOR 2SA1115P
Q106	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q109	8-729-119-76	s	TRANSISTOR 2SA1115P
Q110	8-729-119-76	s	TRANSISTOR 2SA1115P
Q111	8-729-140-96	s	TRANSISTOR 2SD774-4
Q112	8-729-924-90	s	TRANSISTOR 2SB1370-EF
Q114	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q115	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q116	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q118	8-729-900-36	s	TRANSISTOR DTC124ES
Q119	8-729-900-89	s	TRANSISTOR DTC144ES
Q301	8-729-900-89	s	TRANSISTOR DTC144ES
Q302	8-729-119-76	s	TRANSISTOR 2SA1115P
Q303	8-729-900-89	s	TRANSISTOR DTC144ES
Q304	8-729-119-76	s	TRANSISTOR 2SA1115P
Q305	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q306	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q307	8-729-119-76	s	TRANSISTOR 2SA1115P
Q308	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q309	8-729-119-76	s	TRANSISTOR 2SA1115P
Q310	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q311	8-729-119-76	s	TRANSISTOR 2SA1115P
Q312	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q313	8-729-119-76	s	TRANSISTOR 2SA1115P
Q314	8-729-320-60	s	TRANSISTOR 2SD788-34
Q315	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q316	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q317	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q318	8-729-119-76	s	TRANSISTOR 2SA1115P
Q319	8-729-320-60	s	TRANSISTOR 2SD788-34
Q320	8-729-900-89	s	TRANSISTOR DTC144ES
Q321	8-729-900-89	s	TRANSISTOR DTC144ES
Q322	8-729-900-89	s	TRANSISTOR DTC144ES
Q323	8-729-900-89	s	TRANSISTOR DTC144ES
Q324	8-729-900-89	s	TRANSISTOR DTC144ES
Q325	8-729-900-89	s	TRANSISTOR DTC144ES
Q326	8-729-900-89	s	TRANSISTOR DTC144ES
Q327	8-729-900-89	s	TRANSISTOR DTC144ES
Q328	8-729-900-89	s	TRANSISTOR DTC144ES
Q331	8-729-119-76	s	TRANSISTOR 2SA1115P
Q332	8-729-900-89	s	TRANSISTOR DTC144ES
Q333	8-729-900-89	s	TRANSISTOR DTC144ES
Q501	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q515	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q516	8-729-119-79	s	TRANSISTOR 2SC2785-FEK

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Ref. No. or Q'ty	Part No.	SP	Description
Q517	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q518	8-729-119-77	s	TRANSISTOR 2SA1175-FEK
Q519	8-729-900-65	s	TRANSISTOR DTA144ES
Q520	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q521	8-729-900-65	s	TRANSISTOR DTA144ES
Q701	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q702	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q703	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R1	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R2	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R3	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R4	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R5	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R6	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R7	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R8	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R9	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R10	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R11	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R12	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R13	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R14	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R15	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R16	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R100	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R101	1-249-413-11	s	CARBON 470 5% 1/4W
R102	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R103	1-249-414-11	s	CARBON 560 5% 1/4W
R111	1-249-429-11	s	CARBON 10K 5% 1/4W
R112	1-249-437-11	s	CARBON 47K 5% 1/4W
R113	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R114	1-247-903-00	s	CARBON 1M 5% 1/4W
R115	1-249-417-11	s	CARBON 1K 5% 1/4W
R116	1-249-417-11	s	CARBON 1K 5% 1/4W
R117	1-249-409-11	s	CARBON 220 5% 1/4W
R118	1-249-417-11	s	CARBON 1K 5% 1/4W
R119	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R122	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R123	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R126	1-249-429-11	s	CARBON 10K 5% 1/4W
R127	1-249-429-11	s	CARBON 10K 5% 1/4W
R128	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R129	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R133	1-249-429-11	s	CARBON 10K 5% 1/4W
R134	1-249-429-11	s	CARBON 10K 5% 1/4W
R135	1-249-429-11	s	CARBON 10K 5% 1/4W
R136	1-247-885-00	s	CARBON 180K 5% 1/4W
R137	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R138	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R139	1-249-437-11	s	CARBON 47K 5% 1/4W
R140	1-249-437-11	s	CARBON 47K 5% 1/4W
R141	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R144	1-247-903-00	s	CARBON 1M 5% 1/4W
R145	1-249-441-11	s	CARBON 100K 5% 1/4W
R146	1-249-441-11	s	CARBON 100K 5% 1/4W
R147	1-249-441-11	s	CARBON 100K 5% 1/4W
R148	1-247-887-00	s	CARBON 220K 5% 1/4W
R149	1-249-433-11	s	CARBON 22K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R150	1-249-433-11	s	CARBON 22K 5% 1/4W
R151	1-249-437-11	s	CARBON 47K 5% 1/4W
R152	1-249-437-11	s	CARBON 47K 5% 1/4W
R153	1-249-437-11	s	CARBON 47K 5% 1/4W
R155	1-249-429-11	s	CARBON 10K 5% 1/4W
R156	1-249-429-11	s	CARBON 10K 5% 1/4W
R157	1-249-429-11	s	CARBON 10K 5% 1/4W
R158	1-249-429-11	s	CARBON 10K 5% 1/4W
R159	1-249-429-11	s	CARBON 10K 5% 1/4W
R160	1-249-429-11	s	CARBON 10K 5% 1/4W
R161	1-249-429-11	s	CARBON 10K 5% 1/4W
R162	1-249-429-11	s	CARBON 10K 5% 1/4W
R163	1-249-441-11	s	CARBON 100K 5% 1/4W
R164	1-249-441-11	s	CARBON 100K 5% 1/4W
R165	1-249-441-11	s	CARBON 100K 5% 1/4W
R166	1-247-807-31	s	CARBON 100 5% 1/4W
R167	1-247-807-31	s	CARBON 100 5% 1/4W
R168	1-247-807-31	s	CARBON 100 5% 1/4W
R169	1-249-417-11	s	CARBON 1K 5% 1/4W
R170	1-249-417-11	s	CARBON 1K 5% 1/4W
R171	1-249-417-11	s	CARBON 1K 5% 1/4W
R172	1-249-433-11	s	CARBON 22K 5% 1/4W
R173	1-247-887-00	s	CARBON 220K 5% 1/4W
R174	1-249-437-11	s	CARBON 47K 5% 1/4W
R175	1-249-437-11	s	CARBON 47K 5% 1/4W
R176	1-249-417-11	s	CARBON 1K 5% 1/4W
R177	1-249-417-11	s	CARBON 1K 5% 1/4W
R178	1-249-429-11	s	CARBON 10K 5% 1/4W
R179	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R180	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R182	1-249-433-11	s	CARBON 22K 5% 1/4W
R183	1-247-887-00	s	CARBON 220K 5% 1/4W
R184	1-249-429-11	s	CARBON 10K 5% 1/4W
R185	1-249-417-11	s	CARBON 1K 5% 1/4W
R194	1-249-413-11	s	CARBON 470 5% 1/4W
R195	1-249-417-11	s	CARBON 1K 5% 1/4W
R196	1-249-417-11	s	CARBON 1K 5% 1/4W
R197	1-249-417-11	s	CARBON 1K 5% 1/4W
R198	1-249-429-11	s	CARBON 10K 5% 1/4W
R199	1-249-433-11	s	CARBON 22K 5% 1/4W
R200	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R201	1-249-441-11	s	CARBON 100K 5% 1/4W
R202	1-249-417-11	s	CARBON 1K 5% 1/4W
R205	1-249-417-11	s	CARBON 1K 5% 1/4W
R206	1-249-417-11	s	CARBON 1K 5% 1/4W
R208	1-249-417-11	s	CARBON 1K 5% 1/4W
R209	1-249-417-11	s	CARBON 1K 5% 1/4W
R211	1-249-429-11	s	CARBON 10K 5% 1/4W
R212	1-247-903-00	s	CARBON 1M 5% 1/4W
R213	1-247-903-00	s	CARBON 1M 5% 1/4W
R214	1-247-903-00	s	CARBON 1M 5% 1/4W
R215	1-249-437-11	s	CARBON 47K 5% 1/4W
R216	1-249-417-11	s	CARBON 1K 5% 1/4W
R217	1-249-417-11	s	CARBON 1K 5% 1/4W
R218	1-249-417-11	s	CARBON 1K 5% 1/4W
R219	1-249-417-11	s	CARBON 1K 5% 1/4W
R220	1-249-417-11	s	CARBON 1K 5% 1/4W
R225	1-249-441-11	s	CARBON 100K 5% 1/4W
R301	1-249-410-11	s	CARBON 270 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R302	1-249-429-11	s	CARBON 10K 5% 1/4W
R303	1-249-429-11	s	CARBON 10K 5% 1/4W
R304	1-249-415-11	s	CARBON 680 5% 1/4W
R305	1-249-435-11	s	CARBON 33K 5% 1/4W
R306	1-249-435-11	s	CARBON 33K 5% 1/4W
R307	1-247-891-00	s	CARBON 330K 5% 1/4W
R308	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R309	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R310	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R311	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R312	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R313	1-249-437-11	s	CARBON 47K 5% 1/4W
R314	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R315	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R316	1-249-441-11	s	CARBON 100K 5% 1/4W
R317	1-249-441-11	s	CARBON 100K 5% 1/4W
R318	1-249-409-11	s	CARBON 220 5% 1/4W
R319	1-249-429-11	s	CARBON 10K 5% 1/4W
R320	1-249-408-11	s	CARBON 180 5% 1/4W
R321	1-249-429-11	s	CARBON 10K 5% 1/4W
R322	1-249-417-11	s	CARBON 1K 5% 1/4W
R324	1-249-409-11	s	CARBON 220 5% 1/4W
R325	1-249-417-11	s	CARBON 1K 5% 1/4W
R326	1-247-903-00	s	CARBON 1M 5% 1/4W
R327	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R328	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R329	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R330	1-247-903-00	s	CARBON 1M 5% 1/4W
R331	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R332	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R333	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R334	1-247-903-00	s	CARBON 1M 5% 1/4W
R335	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R336	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R337	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R338	1-247-903-00	s	CARBON 1M 5% 1/4W
R339	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R340	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R341	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R342	1-249-438-11	s	CARBON 56K 5% 1/4W
R343	1-249-438-11	s	CARBON 56K 5% 1/4W
R344	1-249-417-11	s	CARBON 1K 5% 1/4W
R345	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R346	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R347	1-215-407-00	s	METAL 270 1% 1/6W
R348	1-215-420-00	s	METAL 910 1% 1/6W
R349	1-247-807-31	s	CARBON 100 5% 1/4W
R350	1-247-807-31	s	CARBON 100 5% 1/4W
R351	1-247-807-31	s	CARBON 100 5% 1/4W
R352	1-247-807-31	s	CARBON 100 5% 1/4W
R353	1-249-441-11	s	CARBON 100K 5% 1/4W
R354	1-249-441-11	s	CARBON 100K 5% 1/4W
R355	1-247-895-00	s	CARBON 470K 5% 1/4W
R356	1-247-895-00	s	CARBON 470K 5% 1/4W
R357	1-247-891-00	s	CARBON 330K 5% 1/4W
R358	1-249-437-11	s	CARBON 47K 5% 1/4W
R359	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R360	1-249-437-11	s	CARBON 47K 5% 1/4W
R361	1-249-437-11	s	CARBON 47K 5% 1/4W

Ref. No. or Q'ty	Part No.	SP	Description
R362	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R363	1-249-433-11	s	CARBON 22K 5% 1/4W
R364	1-249-441-11	s	CARBON 100K 5% 1/4W
R365	1-215-407-00	s	METAL 270 1% 1/6W
R366	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R367	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R368	1-249-409-11	s	CARBON 220 5% 1/4W
R369	1-215-420-00	s	METAL 910 1% 1/6W
R370	1-249-409-11	s	CARBON 220 5% 1/4W
R371	1-249-417-11	s	CARBON 1K 5% 1/4W
R372	1-247-887-00	s	CARBON 220K 5% 1/4W
R373	1-247-895-00	s	CARBON 470K 5% 1/4W
R375	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R376	1-249-441-11	s	CARBON 100K 5% 1/4W
R377	1-249-441-11	s	CARBON 100K 5% 1/4W
R378	1-249-429-11	s	CARBON 10K 5% 1/4W
R379	1-249-429-11	s	CARBON 10K 5% 1/4W
R381	1-216-365-00	s	METAL 0.47 5% 2W
R383	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R384	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R385	1-249-409-11	s	CARBON 220 5% 1/4W
R387	1-249-409-11	s	CARBON 220 5% 1/4W
R388	1-249-417-11	s	CARBON 1K 5% 1/4W
R389	1-247-887-00	s	CARBON 220K 5% 1/4W
R390	1-247-895-00	s	CARBON 470K 5% 1/4W
R392	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R393	1-249-441-11	s	CARBON 100K 5% 1/4W
R394	1-249-441-11	s	CARBON 100K 5% 1/4W
R395	1-249-429-11	s	CARBON 10K 5% 1/4W
R396	1-249-429-11	s	CARBON 10K 5% 1/4W
R398	1-216-365-00	s	METAL 0.47 5% 2W
R399	1-249-437-11	s	CARBON 47K 5% 1/4W
R401	1-249-429-11	s	CARBON 10K 5% 1/4W
R402	1-249-429-11	s	CARBON 10K 5% 1/4W
R403	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R404	1-249-438-11	s	CARBON 56K 5% 1/4W
R405	1-249-438-11	s	CARBON 56K 5% 1/4W
R406	1-249-415-11	s	CARBON 680 5% 1/4W
R407	1-249-429-11	s	CARBON 10K 5% 1/4W
R408	1-249-429-11	s	CARBON 10K 5% 1/4W
R409	1-249-429-11	s	CARBON 10K 5% 1/4W
R410	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R411	1-249-438-11	s	CARBON 56K 5% 1/4W
R412	1-249-438-11	s	CARBON 56K 5% 1/4W
R413	1-249-415-11	s	CARBON 680 5% 1/4W
R414	1-249-429-11	s	CARBON 10K 5% 1/4W
R415	1-249-437-11	s	CARBON 47K 5% 1/4W
R416	1-249-429-11	s	CARBON 10K 5% 1/4W
R417	1-249-429-11	s	CARBON 10K 5% 1/4W
R418	1-249-429-11	s	CARBON 10K 5% 1/4W
R419	1-249-429-11	s	CARBON 10K 5% 1/4W
R420	1-249-437-11	s	CARBON 47K 5% 1/4W
R421	1-249-429-11	s	CARBON 10K 5% 1/4W
R422	1-249-417-11	s	CARBON 1K 5% 1/4W
R423	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R424	1-249-437-11	s	CARBON 47K 5% 1/4W
R425	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R426	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R427	1-249-429-11	s	CARBON 10K 5% 1/4W

Ref. No. or Q'ty	Part No.	SP	Description
R500	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R501	1-249-413-11	s	CARBON 470 5% 1/4W
R502	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R503	1-247-889-00	s	CARBON 270K 5% 1/4W
R504	1-249-417-11	s	CARBON 1K 5% 1/4W
R505	1-249-429-11	s	CARBON 10K 5% 1/4W
R506	1-249-429-11	s	CARBON 10K 5% 1/4W
R507	1-249-429-11	s	CARBON 10K 5% 1/4W
R508	1-249-429-11	s	CARBON 10K 5% 1/4W
R509	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R510	1-249-429-11	s	CARBON 10K 5% 1/4W
R511	1-249-429-11	s	CARBON 10K 5% 1/4W
R535	1-247-807-31	s	CARBON 100 5% 1/4W
R551	1-249-417-11	s	CARBON 1K 5% 1/4W
R552	1-249-441-11	s	CARBON 100K 5% 1/4W
R553	1-249-437-11	s	CARBON 47K 5% 1/4W
R554	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R555	1-249-433-11	s	CARBON 22K 5% 1/4W
R556	1-249-417-11	s	CARBON 1K 5% 1/4W
R557	1-249-417-11	s	CARBON 1K 5% 1/4W
R558	1-249-413-11	s	CARBON 470 5% 1/4W
R559	1-215-404-00	s	METAL 200 1% 1/6W
R560	1-247-895-00	s	CARBON 470K 5% 1/4W
R561	1-249-417-11	s	CARBON 1K 5% 1/4W
R562	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R563	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R564	1-249-410-11	s	CARBON 270 5% 1/4W
R565	1-249-402-11	s	CARBON 56 5% 1/4W
R566	1-249-437-11	s	CARBON 47K 5% 1/4W
R567	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R568	1-249-435-11	s	CARBON 33K 5% 1/4W
R569	1-249-429-11	s	CARBON 10K 5% 1/4W
R570	1-249-433-11	s	CARBON 22K 5% 1/4W
R571	1-249-441-11	s	CARBON 100K 5% 1/4W
R572	1-249-441-11	s	CARBON 100K 5% 1/4W
R573	1-249-433-11	s	CARBON 22K 5% 1/4W
R575	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R576	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R577	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R578	1-249-429-11	s	CARBON 10K 5% 1/4W
R601	1-249-441-11	s	CARBON 100K 5% 1/4W
R602	1-249-441-11	s	CARBON 100K 5% 1/4W
R603	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R604	1-249-413-11	s	CARBON 470 5% 1/4W
R605	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R606	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R607	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R608	1-247-903-00	s	CARBON 1M 5% 1/4W
R609	1-249-429-11	s	CARBON 10K 5% 1/4W
R610	1-247-903-00	s	CARBON 1M 5% 1/4W
R611	1-249-429-11	s	CARBON 10K 5% 1/4W
R701	1-247-887-00	s	CARBON 220K 5% 1/4W
R702	1-247-887-00	s	CARBON 220K 5% 1/4W
R703	1-247-887-00	s	CARBON 220K 5% 1/4W
RB101	1-235-196-00	s	RESISTOR BLOCK 100kx8
RB301	1-235-195-00	s	RESISTOR BLOCK 10KX8
RV301	1-241-785-11	s	RES, ADJ METAL 10k
RV302	1-241-785-11	s	RES, ADJ METAL 10k

(SS-59B BOARD / SVO-965P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
S101	1-570-623-11	s	SWITCH, DIP 8-CKT
X101	1-567-962-11	s	CRYSTAL 8MHz
X301	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

SS-59C BOARD / SVO-915P, EK

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-330-A	o	MOUNTED CIRCUIT BOARD, SS-59C
2pcs	1-533-189-11	s	HOLDER, FUSE
1pc	1-566-095-11	s	CONNECTOR, BB 11P, MALE
3pcs	3-682-057-11	s	SPACER (SMALL)
1pc	1-952-739-11	o	HARNESS, SUB (VIDEO)
1pc	1-952-731-12	o	HARNESS (MECHA)
1pc	1-952-729-11	o	HARNESS (FRONT)
1pc	1-952-730-11	o	HARNESS (CENTER)
1pc	1-952-732-11	o	HARNESS (CENTER2)
C103	1-125-498-11	s	DOUBLE LAYERS 1F 5.5V
C104	1-161-494-00	s	CERAMIC 0.022uF 25V
C105	1-124-916-11	s	ELECT 22uF 20% 63V
C106	1-126-933-11	s	ELECT 100uF 20% 16V
C107	1-126-157-11	s	ELECT 10uF 20% 16V
C108	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C109	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C110	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C111	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C112	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C113	1-124-126-00	s	ELECT 47uF 20% 25V
C114	1-104-664-11	s	ELECT 47uF 20% 25V
C115	1-124-126-00	s	ELECT 47uF 20% 25V
C116	1-124-927-11	s	ELECT 4.7uF 20% 100V
C119	1-124-925-11	s	ELECT 2.2uF 20% 100V
C120	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C121	1-162-290-31	s	CERAMIC 470PF 10% 50V
C122	1-162-203-31	s	CERAMIC 15PF 5% 50V
C123	1-162-203-31	s	CERAMIC 15PF 5% 50V
C124	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C125	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C126	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C128	1-104-664-11	s	ELECT 47uF 20% 25V
C129	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C130	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C139	1-104-664-11	s	ELECT 47uF 20% 25V
C140	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C141	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C144	1-161-494-00	s	CERAMIC 0.022uF 25V
C146	1-124-126-00	s	ELECT 47uF 20% 25V
C147	1-161-494-00	s	CERAMIC 0.022uF 25V
C148	1-161-494-00	s	CERAMIC 0.022uF 25V
C149	1-126-157-11	s	ELECT 10uF 20% 16V
C150	1-162-290-31	s	CERAMIC 470PF 10% 50V
C302	1-123-382-00	s	ELECT 3.3uF 20% 100V
C303	1-123-382-00	s	ELECT 3.3uF 20% 100V
C304	1-126-157-11	s	ELECT 10uF 20% 16V
C305	1-126-157-11	s	ELECT 10uF 20% 16V
C306	1-123-382-00	s	ELECT 3.3uF 20% 100V
C307	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C308	1-124-126-00	s	ELECT 47uF 20% 25V
C309	1-104-664-11	s	ELECT 47uF 20% 25V
C310	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C311	1-126-966-11	s	ELECT 33uF 20% 50V
C312	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C313	1-126-966-11	s	ELECT 33uF 20% 50V
C314	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C315	1-126-966-11	s	ELECT 33uF 20% 50V
C316	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C317	1-126-966-11	s	ELECT 33uF 20% 50V

(SS-59C BOARD / SVO-915P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
C318	1-124-903-11	s	ELECT 1uF 20% 50V
C319	1-124-903-11	s	ELECT 1uF 20% 50V
C320	1-124-126-00	s	ELECT 47uF 20% 25V
C321	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C322	1-162-288-31	s	CERAMIC 330PF 10% 50V
C323	1-162-286-31	s	CERAMIC 220PF 10% 50V
C324	1-162-290-31	s	CERAMIC 470PF 10% 50V
C325	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C326	1-162-290-31	s	CERAMIC 470PF 10% 50V
C327	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C328	1-104-665-11	s	ELECT 100uF 20% 25V
C329	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C330	1-104-666-11	s	ELECT 220uF 20% 25V
C331	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C332	1-162-290-31	s	CERAMIC 470PF 10% 50V
C333	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C334	1-104-665-11	s	ELECT 100uF 20% 25V
C335	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C336	1-104-666-11	s	ELECT 220uF 20% 25V
C337	1-126-768-11	s	ELECT 2200uF 20% 16V
C338	1-104-664-11	s	ELECT 47uF 20% 25V
C339	1-124-902-00	s	ELECT 0.47uF 20% 50V
C340	1-124-902-00	s	ELECT 0.47uF 20% 50V
C341	1-162-210-31	s	CERAMIC 30PF 5% 50V
C342	1-162-210-31	s	CERAMIC 30PF 5% 50V
C343	1-162-290-31	s	CERAMIC 470PF 10% 50V
C344	1-161-494-00	s	CERAMIC 0.022uF 25V
C345	1-161-494-00	s	CERAMIC 0.022uF 25V
C346	1-161-494-00	s	CERAMIC 0.022uF 25V
C347	1-161-494-00	s	CERAMIC 0.022uF 25V
C348	1-161-494-00	s	CERAMIC 0.022uF 25V
C350	1-161-494-00	s	CERAMIC 0.022uF 25V
C351	1-124-126-00	s	ELECT 47uF 20% 25V
C500	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C501	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C502	1-126-947-11	s	ELECT 47uF 20% 35V
C503	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C504	1-124-927-11	s	ELECT 4.7uF 20% 100V
C505	1-124-927-11	s	ELECT 4.7uF 20% 100V
C506	1-124-499-11	s	ELECT, NONPOLAR 1uF 20% 50V
C507	1-124-903-11	s	ELECT 1uF 20% 50V
C508	1-124-126-00	s	ELECT 47uF 20% 25V
C509	1-162-282-31	s	CERAMIC 100PF 10% 50V
C510	1-162-199-31	s	CERAMIC 10PF 5% 50V
C527	1-104-665-11	s	ELECT 100uF 20% 25V
C530	1-161-494-00	s	CERAMIC 0.022uF 25V
C531	1-161-494-00	s	CERAMIC 0.022uF 25V
C533	1-126-157-11	s	ELECT 10uF 20% 16V
C601	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C602	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C603	1-124-903-11	s	ELECT 1uF 20% 50V
C604	1-162-290-31	s	CERAMIC 470PF 10% 50V
C605	1-162-290-31	s	CERAMIC 470PF 10% 50V
CN100	1-560-898-00	o	CONNECTOR 10P, MALE
CN106	1-952-737-11	o	HARNESS, SUB (LD)
CN107	1-564-002-11	s	CONNECTOR 3P, MALE
CN114	1-506-475-11	s	CONNECTOR 10P, MALE
CN116	1-506-471-11	s	CONNECTOR 6P, MALE

(SS-59C BOARD / SVO-915P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
CN122	1-952-736-11	o	HARNESS, SUB (CAP)
CN140	1-952-735-11	o	HARNESS, SUB (AFM VCC)
CN141	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
CN142	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
D104	8-719-200-02	s	DIODE 10E2
D105	8-719-200-02	s	DIODE 10E2
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-109-93	s	DIODE RD6.2ES-B2
D108	8-719-911-19	s	DIODE 1SS119
D109	8-719-911-19	s	DIODE 1SS119
D110	8-719-911-19	s	DIODE 1SS119
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-109-84	s	DIODE RD5.1ES-B1
D308	8-719-911-19	s	DIODE 1SS119
D309	8-719-911-19	s	DIODE 1SS119
D310	8-719-110-14	s	DIODE RD9.1ESB3
D311	8-719-981-00	s	DIODE ERC81-004
D312	8-719-981-00	s	DIODE ERC81-004
D313	8-719-200-02	s	DIODE 10E2
D314	8-719-200-02	s	DIODE 10E2
D315	8-719-911-19	s	DIODE 1SS119
D316	8-719-911-19	s	DIODE 1SS119
D317	8-719-911-19	s	DIODE 1SS119
D318	8-719-160-68	s	DIODE RD18FB2
D319	8-719-911-19	s	DIODE 1SS119
D320	8-719-109-76	s	DIODE RD4.3ES-B3
D321	8-719-115-53	s	DIODE RD6.2JS-T1B1
D322	8-719-110-17	s	DIODE RD10ES-B2
F101	⚠1-576-228-11	s	FUSE 2A 250V
IC101	8-752-850-82	s	IC CXP80116-884Q
IC102	8-759-183-16	s	IC BR9021B
IC104	8-759-512-71	s	IC S-8054HNM
IC106	8-759-981-96	s	IC RC4560D
IC107	8-759-987-91	s	IC BA10393
IC108	8-759-135-80	s	IC UPC358C
IC109	8-759-983-45	s	IC BA6238A
IC111	8-759-512-71	s	IC S-8054HNM
IC301	8-759-135-80	s	IC UPC358C
IC302	8-759-135-80	s	IC UPC358C
IC303	8-759-140-53	s	IC UPD4053BC
IC304	8-759-984-03	s	IC LM339N
IC305	8-759-984-03	s	IC LM339N
IC306	8-759-154-19	s	IC UPD75106CW-184
IC307	8-759-340-13	s	IC HD14013BP
IC308	8-759-045-38	s	IC MC14538BCP
IC310	8-759-135-80	s	IC UPC358C
IC500	8-759-632-58	s	IC M52435P
IC503	8-759-140-53	s	IC UPD4053BC
IC601	8-759-987-91	s	IC BA10393
L101	1-410-482-31	s	INDUCTOR 100uH
L301	1-408-519-00	s	COIL, CHOKE
L302	1-408-519-00	s	COIL, CHOKE
PS101	⚠1-532-685-00	s	LINK, IC 0.6A
PS103	⚠1-532-637-00	s	LINK, IC 1.0A
Q100	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q101	8-729-119-79	s	TRANSISTOR 2SC2785-FEK

(SS-59C BOARD / SVO-915P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
Q102	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q105	8-729-119-76	s	TRANSISTOR 2SA1115P
Q106	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q109	8-729-119-76	s	TRANSISTOR 2SA1115P
Q110	8-729-119-76	s	TRANSISTOR 2SA1115P
Q111	8-729-140-96	s	TRANSISTOR 2SD774-4
Q112	8-729-924-90	s	TRANSISTOR 2SB1370-EF
Q114	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q115	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q116	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q118	8-729-900-36	s	TRANSISTOR DTC124ES
Q119	8-729-900-89	s	TRANSISTOR DTC144ES
Q301	8-729-900-89	s	TRANSISTOR DTC144ES
Q302	8-729-119-76	s	TRANSISTOR 2SA1115P
Q303	8-729-900-89	s	TRANSISTOR DTC144ES
Q304	8-729-119-76	s	TRANSISTOR 2SA1115P
Q305	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q306	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q307	8-729-119-76	s	TRANSISTOR 2SA1115P
Q308	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q309	8-729-119-76	s	TRANSISTOR 2SA1115P
Q310	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q311	8-729-119-76	s	TRANSISTOR 2SA1115P
Q312	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q313	8-729-119-76	s	TRANSISTOR 2SA1115P
Q314	8-729-320-60	s	TRANSISTOR 2SD788-34
Q315	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q316	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q317	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q318	8-729-119-76	s	TRANSISTOR 2SA1115P
Q319	8-729-320-60	s	TRANSISTOR 2SD788-34
Q320	8-729-900-89	s	TRANSISTOR DTC144ES
Q321	8-729-900-89	s	TRANSISTOR DTC144ES
Q322	8-729-900-89	s	TRANSISTOR DTC144ES
Q323	8-729-900-89	s	TRANSISTOR DTC144ES
Q324	8-729-900-89	s	TRANSISTOR DTC144ES
Q325	8-729-900-89	s	TRANSISTOR DTC144ES
Q326	8-729-900-89	s	TRANSISTOR DTC144ES
Q327	8-729-900-89	s	TRANSISTOR DTC144ES
Q328	8-729-900-89	s	TRANSISTOR DTC144ES
Q331	8-729-119-76	s	TRANSISTOR 2SA1115P
Q332	8-729-900-89	s	TRANSISTOR DTC144ES
Q333	8-729-900-89	s	TRANSISTOR DTC144ES
Q501	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q701	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q702	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q703	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R1	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R2	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R3	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R4	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R5	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R6	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R7	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R8	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R9	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R10	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R11	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W

(SS-59C BOARD / SVO-915P, EK)

Ref. No. or Q'ty	Part No.	SP	Description
R12	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R13	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R14	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R15	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R16	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R100	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R101	1-249-413-11	s	CARBON 470 5% 1/4W
R102	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R103	1-249-414-11	s	CARBON 560 5% 1/4W
R111	1-249-429-11	s	CARBON 10K 5% 1/4W
R112	1-249-437-11	s	CARBON 47K 5% 1/4W
R113	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R114	1-247-903-00	s	CARBON 1M 5% 1/4W
R115	1-249-417-11	s	CARBON 1K 5% 1/4W
R116	1-249-417-11	s	CARBON 1K 5% 1/4W
R117	1-249-409-11	s	CARBON 220 5% 1/4W
R118	1-249-417-11	s	CARBON 1K 5% 1/4W
R119	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R122	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R123	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R126	1-249-429-11	s	CARBON 10K 5% 1/4W
R127	1-249-429-11	s	CARBON 10K 5% 1/4W
R128	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R129	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R133	1-249-429-11	s	CARBON 10K 5% 1/4W
R134	1-249-429-11	s	CARBON 10K 5% 1/4W
R135	1-249-429-11	s	CARBON 10K 5% 1/4W
R136	1-247-885-00	s	CARBON 180K 5% 1/4W
R137	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R138	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R139	1-249-437-11	s	CARBON 47K 5% 1/4W
R140	1-249-437-11	s	CARBON 47K 5% 1/4W
R141	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R144	1-247-903-00	s	CARBON 1M 5% 1/4W
R145	1-249-441-11	s	CARBON 100K 5% 1/4W
R146	1-249-441-11	s	CARBON 100K 5% 1/4W
R147	1-249-441-11	s	CARBON 100K 5% 1/4W
R148	1-247-887-00	s	CARBON 220K 5% 1/4W
R149	1-249-433-11	s	CARBON 22K 5% 1/4W
R150	1-249-433-11	s	CARBON 22K 5% 1/4W
R151	1-249-437-11	s	CARBON 47K 5% 1/4W
R152	1-249-437-11	s	CARBON 47K 5% 1/4W
R153	1-249-437-11	s	CARBON 47K 5% 1/4W
R155	1-249-429-11	s	CARBON 10K 5% 1/4W
R156	1-249-429-11	s	CARBON 10K 5% 1/4W
R157	1-249-429-11	s	CARBON 10K 5% 1/4W
R158	1-249-429-11	s	CARBON 10K 5% 1/4W
R159	1-249-429-11	s	CARBON 10K 5% 1/4W
R160	1-249-429-11	s	CARBON 10K 5% 1/4W
R161	1-249-429-11	s	CARBON 10K 5% 1/4W
R162	1-249-429-11	s	CARBON 10K 5% 1/4W
R163	1-249-441-11	s	CARBON 100K 5% 1/4W
R164	1-249-441-11	s	CARBON 100K 5% 1/4W
R165	1-249-441-11	s	CARBON 100K 5% 1/4W
R166	1-247-807-31	s	CARBON 100 5% 1/4W
R167	1-247-807-31	s	CARBON 100 5% 1/4W
R168	1-247-807-31	s	CARBON 100 5% 1/4W
R169	1-249-417-11	s	CARBON 1K 5% 1/4W
R170	1-249-417-11	s	CARBON 1K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R171	1-249-417-11	s	CARBON 1K 5% 1/4W
R172	1-249-433-11	s	CARBON 22K 5% 1/4W
R173	1-247-887-00	s	CARBON 220K 5% 1/4W
R174	1-249-437-11	s	CARBON 47K 5% 1/4W
R175	1-249-437-11	s	CARBON 47K 5% 1/4W
R176	1-249-417-11	s	CARBON 1K 5% 1/4W
R177	1-249-417-11	s	CARBON 1K 5% 1/4W
R178	1-249-429-11	s	CARBON 10K 5% 1/4W
R179	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R180	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R182	1-249-433-11	s	CARBON 22K 5% 1/4W
R183	1-247-887-00	s	CARBON 220K 5% 1/4W
R184	1-249-429-11	s	CARBON 10K 5% 1/4W
R185	1-249-417-11	s	CARBON 1K 5% 1/4W
R194	1-249-413-11	s	CARBON 470 5% 1/4W
R195	1-249-417-11	s	CARBON 1K 5% 1/4W
R196	1-249-417-11	s	CARBON 1K 5% 1/4W
R197	1-249-417-11	s	CARBON 1K 5% 1/4W
R198	1-249-429-11	s	CARBON 10K 5% 1/4W
R199	1-249-433-11	s	CARBON 22K 5% 1/4W
R200	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R201	1-249-441-11	s	CARBON 100K 5% 1/4W
R202	1-249-417-11	s	CARBON 1K 5% 1/4W
R205	1-249-417-11	s	CARBON 1K 5% 1/4W
R206	1-249-417-11	s	CARBON 1K 5% 1/4W
R208	1-249-417-11	s	CARBON 1K 5% 1/4W
R209	1-249-417-11	s	CARBON 1K 5% 1/4W
R211	1-249-429-11	s	CARBON 10K 5% 1/4W
R212	1-247-903-00	s	CARBON 1M 5% 1/4W
R213	1-247-903-00	s	CARBON 1M 5% 1/4W
R214	1-247-903-00	s	CARBON 1M 5% 1/4W
R215	1-249-437-11	s	CARBON 47K 5% 1/4W
R216	1-249-417-11	s	CARBON 1K 5% 1/4W
R217	1-249-417-11	s	CARBON 1K 5% 1/4W
R218	1-249-417-11	s	CARBON 1K 5% 1/4W
R219	1-249-417-11	s	CARBON 1K 5% 1/4W
R220	1-249-417-11	s	CARBON 1K 5% 1/4W
R225	1-249-441-11	s	CARBON 100K 5% 1/4W
R301	1-249-410-11	s	CARBON 270 5% 1/4W
R302	1-249-429-11	s	CARBON 10K 5% 1/4W
R303	1-249-429-11	s	CARBON 10K 5% 1/4W
R304	1-249-415-11	s	CARBON 680 5% 1/4W
R305	1-249-435-11	s	CARBON 33K 5% 1/4W
R306	1-249-435-11	s	CARBON 33K 5% 1/4W
R307	1-247-891-00	s	CARBON 330K 5% 1/4W
R308	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R309	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R310	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R311	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R312	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R313	1-249-437-11	s	CARBON 47K 5% 1/4W
R314	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R315	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R316	1-249-441-11	s	CARBON 100K 5% 1/4W
R317	1-249-441-11	s	CARBON 100K 5% 1/4W
R318	1-249-409-11	s	CARBON 220 5% 1/4W
R319	1-249-429-11	s	CARBON 10K 5% 1/4W
R320	1-249-408-11	s	CARBON 180 5% 1/4W
R321	1-249-429-11	s	CARBON 10K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R322	1-249-417-11	s	CARBON 1K 5% 1/4W
R324	1-249-409-11	s	CARBON 220 5% 1/4W
R325	1-249-417-11	s	CARBON 1K 5% 1/4W
R326	1-247-903-00	s	CARBON 1M 5% 1/4W
R327	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R328	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R329	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R330	1-247-903-00	s	CARBON 1M 5% 1/4W
R331	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R332	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R333	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R334	1-247-903-00	s	CARBON 1M 5% 1/4W
R335	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R336	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R337	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R338	1-247-903-00	s	CARBON 1M 5% 1/4W
R339	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R340	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R341	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R342	1-249-438-11	s	CARBON 56K 5% 1/4W
R343	1-249-438-11	s	CARBON 56K 5% 1/4W
R344	1-249-417-11	s	CARBON 1K 5% 1/4W
R345	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R346	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R347	1-215-407-00	s	METAL 270 1% 1/6W
R348	1-215-420-00	s	METAL 910 1% 1/6W
R349	1-247-807-31	s	CARBON 100 5% 1/4W
R350	1-247-807-31	s	CARBON 100 5% 1/4W
R351	1-247-807-31	s	CARBON 100 5% 1/4W
R352	1-247-807-31	s	CARBON 100 5% 1/4W
R353	1-249-441-11	s	CARBON 100K 5% 1/4W
R354	1-249-441-11	s	CARBON 100K 5% 1/4W
R355	1-247-895-00	s	CARBON 470K 5% 1/4W
R356	1-247-895-00	s	CARBON 470K 5% 1/4W
R357	1-247-891-00	s	CARBON 330K 5% 1/4W
R358	1-249-437-11	s	CARBON 47K 5% 1/4W
R359	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R360	1-249-437-11	s	CARBON 47K 5% 1/4W
R361	1-249-437-11	s	CARBON 47K 5% 1/4W
R362	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R363	1-249-433-11	s	CARBON 22K 5% 1/4W
R364	1-249-441-11	s	CARBON 100K 5% 1/4W
R365	1-215-407-00	s	METAL 270 1% 1/6W
R366	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R367	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R368	1-249-409-11	s	CARBON 220 5% 1/4W
R369	1-215-420-00	s	METAL 910 1% 1/6W
R370	1-249-409-11	s	CARBON 220 5% 1/4W
R371	1-249-417-11	s	CARBON 1K 5% 1/4W
R372	1-247-887-00	s	CARBON 220K 5% 1/4W
R373	1-247-895-00	s	CARBON 470K 5% 1/4W
R375	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R376	1-249-441-11	s	CARBON 100K 5% 1/4W
R377	1-249-441-11	s	CARBON 100K 5% 1/4W
R378	1-249-429-11	s	CARBON 10K 5% 1/4W
R379	1-249-429-11	s	CARBON 10K 5% 1/4W
R381	1-216-365-00	s	METAL 0.47 5% 2W
R383	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R384	1-249-421-11	s	CARBON 2.2K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R385	1-249-409-11	s	CARBON 220 5% 1/4W
R387	1-249-409-11	s	CARBON 220 5% 1/4W
R388	1-249-417-11	s	CARBON 1K 5% 1/4W
R389	1-247-887-00	s	CARBON 220K 5% 1/4W
R390	1-247-895-00	s	CARBON 470K 5% 1/4W
R392	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R393	1-249-441-11	s	CARBON 100K 5% 1/4W
R394	1-249-441-11	s	CARBON 100K 5% 1/4W
R395	1-249-429-11	s	CARBON 10K 5% 1/4W
R396	1-249-429-11	s	CARBON 10K 5% 1/4W
R398	1-216-365-00	s	METAL 0.47 5% 2W
R399	1-249-437-11	s	CARBON 47K 5% 1/4W
R401	1-249-429-11	s	CARBON 10K 5% 1/4W
R402	1-249-429-11	s	CARBON 10K 5% 1/4W
R403	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R404	1-249-438-11	s	CARBON 56K 5% 1/4W
R405	1-249-438-11	s	CARBON 56K 5% 1/4W
R406	1-249-415-11	s	CARBON 680 5% 1/4W
R407	1-249-429-11	s	CARBON 10K 5% 1/4W
R408	1-249-429-11	s	CARBON 10K 5% 1/4W
R409	1-249-429-11	s	CARBON 10K 5% 1/4W
R410	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R411	1-249-438-11	s	CARBON 56K 5% 1/4W
R412	1-249-438-11	s	CARBON 56K 5% 1/4W
R413	1-249-415-11	s	CARBON 680 5% 1/4W
R414	1-249-429-11	s	CARBON 10K 5% 1/4W
R415	1-249-437-11	s	CARBON 47K 5% 1/4W
R416	1-249-429-11	s	CARBON 10K 5% 1/4W
R417	1-249-429-11	s	CARBON 10K 5% 1/4W
R418	1-249-429-11	s	CARBON 10K 5% 1/4W
R419	1-249-429-11	s	CARBON 10K 5% 1/4W
R420	1-249-437-11	s	CARBON 47K 5% 1/4W
R421	1-249-429-11	s	CARBON 10K 5% 1/4W
R422	1-249-417-11	s	CARBON 1K 5% 1/4W
R423	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R424	1-249-437-11	s	CARBON 47K 5% 1/4W
R425	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R426	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R427	1-249-429-11	s	CARBON 10K 5% 1/4W
R500	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R501	1-249-413-11	s	CARBON 470 5% 1/4W
R502	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R503	1-247-889-00	s	CARBON 270K 5% 1/4W
R504	1-249-417-11	s	CARBON 1K 5% 1/4W
R505	1-249-429-11	s	CARBON 10K 5% 1/4W
R506	1-249-429-11	s	CARBON 10K 5% 1/4W
R507	1-249-429-11	s	CARBON 10K 5% 1/4W
R508	1-249-429-11	s	CARBON 10K 5% 1/4W
R509	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R510	1-249-429-11	s	CARBON 10K 5% 1/4W
R511	1-249-429-11	s	CARBON 10K 5% 1/4W
R535	1-247-807-31	s	CARBON 100 5% 1/4W
R551	1-249-417-11	s	CARBON 1K 5% 1/4W
R552	1-249-441-11	s	CARBON 100K 5% 1/4W
R553	1-249-437-11	s	CARBON 47K 5% 1/4W
R568	1-249-435-11	s	CARBON 33K 5% 1/4W
R569	1-249-429-11	s	CARBON 10K 5% 1/4W
R571	1-249-441-11	s	CARBON 100K 5% 1/4W
R572	1-249-441-11	s	CARBON 100K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R577	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R578	1-249-429-11	s	CARBON 10K 5% 1/4W
R601	1-249-441-11	s	CARBON 100K 5% 1/4W
R602	1-249-441-11	s	CARBON 100K 5% 1/4W
R603	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R604	1-249-413-11	s	CARBON 470 5% 1/4W
R605	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R606	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R607	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R608	1-247-903-00	s	CARBON 1M 5% 1/4W
R609	1-249-429-11	s	CARBON 10K 5% 1/4W
R610	1-247-903-00	s	CARBON 1M 5% 1/4W
R611	1-249-429-11	s	CARBON 10K 5% 1/4W
R701	1-247-887-00	s	CARBON 220K 5% 1/4W
R702	1-247-887-00	s	CARBON 220K 5% 1/4W
R703	1-247-887-00	s	CARBON 220K 5% 1/4W
RB101	1-235-196-00	s	RESISTOR BLOCK 100kx8
RB301	1-235-195-00	s	RESISTOR BLOCK 10KX8
RV301	1-241-785-11	s	RES, ADJ METAL 10k
RV302	1-241-785-11	s	RES, ADJ METAL 10k
S101	1-570-623-11	s	SWITCH, DIP 8-CKT
X101	1-567-962-11	s	CRYSTAL 8MHz
X301	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

SS-59D BOARD / SVO-965P, UC

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-524-A	o	MOUNTED CIRCUIT BOARD, SS-59D
2pcs	1-533-189-11	s	HOLDER, FUSE
1pc	1-566-095-11	s	CONNECTOR, BB 11P, MALE
3pcs	3-682-057-11	s	SPACER (SMALL)
1pc	1-952-739-11	o	HARNESS, SUB (VIDEO)
1pc	1-952-731-12	o	HARNESS (MECHA)
1pc	1-952-729-11	o	HARNESS (FRONT)
1pc	1-952-730-11	o	HARNESS (CENTER)
1pc	1-952-732-11	o	HARNESS (CENTER2)
C103	1-125-498-11	s	DOUBLE LAYERS 1F 5.5V
C104	1-161-494-00	s	CERAMIC 0.022uF 25V
C105	1-124-916-11	s	ELECT 22uF 20% 63V
C106	1-126-933-11	s	ELECT 100uF 20% 16V
C107	1-126-157-11	s	ELECT 10uF 20% 16V
C108	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C109	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C110	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C111	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C112	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C113	1-124-126-00	s	ELECT 47uF 20% 25V
C114	1-104-664-11	s	ELECT 47uF 20% 25V
C115	1-124-126-00	s	ELECT 47uF 20% 25V
C116	1-124-927-11	s	ELECT 4.7uF 20% 100V
C119	1-124-925-11	s	ELECT 2.2uF 20% 100V
C120	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C121	1-162-290-31	s	CERAMIC 470PF 10% 50V
C122	1-162-203-31	s	CERAMIC 15PF 5% 50V
C123	1-162-203-31	s	CERAMIC 15PF 5% 50V
C124	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C125	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C126	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C128	1-104-664-11	s	ELECT 47uF 20% 25V
C129	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C130	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C139	1-104-664-11	s	ELECT 47uF 20% 25V
C140	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C141	1-161-021-11	s	CERAMIC 0.047uF 10% 25V
C144	1-161-494-00	s	CERAMIC 0.022uF 25V
C146	1-124-126-00	s	ELECT 47uF 20% 25V
C147	1-161-494-00	s	CERAMIC 0.022uF 25V
C148	1-161-494-00	s	CERAMIC 0.022uF 25V
C149	1-126-157-11	s	ELECT 10uF 20% 16V
C150	1-162-290-31	s	CERAMIC 470PF 10% 50V
C302	1-123-382-00	s	ELECT 3.3uF 20% 100V
C303	1-123-382-00	s	ELECT 3.3uF 20% 100V
C304	1-126-157-11	s	ELECT 10uF 20% 16V
C305	1-126-157-11	s	ELECT 10uF 20% 16V
C306	1-123-382-00	s	ELECT 3.3uF 20% 100V
C307	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C308	1-124-126-00	s	ELECT 47uF 20% 25V
C309	1-104-664-11	s	ELECT 47uF 20% 25V
C310	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C311	1-126-966-11	s	ELECT 33uF 20% 50V
C312	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C313	1-126-966-11	s	ELECT 33uF 20% 50V
C314	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C315	1-126-966-11	s	ELECT 33uF 20% 50V
C316	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C317	1-126-966-11	s	ELECT 33uF 20% 50V

(SS-59D BOARD / SVO-965P, UC)

Ref. No. or Q'ty	Part No.	SP	Description
C318	1-124-903-11	s	ELECT 1uF 20% 50V
C319	1-124-903-11	s	ELECT 1uF 20% 50V
C320	1-124-126-00	s	ELECT 47uF 20% 25V
C321	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C322	1-162-288-31	s	CERAMIC 330PF 10% 50V
C323	1-162-286-31	s	CERAMIC 220PF 10% 50V
C324	1-162-290-31	s	CERAMIC 470PF 10% 50V
C325	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C326	1-162-290-31	s	CERAMIC 470PF 10% 50V
C327	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C328	1-104-665-11	s	ELECT 100uF 20% 25V
C329	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C330	1-104-666-11	s	ELECT 220uF 20% 25V
C331	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C332	1-162-290-31	s	CERAMIC 470PF 10% 50V
C333	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C334	1-104-665-11	s	ELECT 100uF 20% 25V
C335	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C336	1-104-666-11	s	ELECT 220uF 20% 25V
C337	1-126-768-11	s	ELECT 2200uF 20% 16V
C338	1-104-664-11	s	ELECT 47uF 20% 25V
C339	1-124-902-00	s	ELECT 0.47uF 20% 50V
C340	1-124-902-00	s	ELECT 0.47uF 20% 50V
C341	1-162-210-31	s	CERAMIC 30PF 5% 50V
C342	1-162-210-31	s	CERAMIC 30PF 5% 50V
C343	1-162-290-31	s	CERAMIC 470PF 10% 50V
C344	1-161-494-00	s	CERAMIC 0.022uF 25V
C345	1-161-494-00	s	CERAMIC 0.022uF 25V
C346	1-161-494-00	s	CERAMIC 0.022uF 25V
C347	1-161-494-00	s	CERAMIC 0.022uF 25V
C348	1-161-494-00	s	CERAMIC 0.022uF 25V
C350	1-161-494-00	s	CERAMIC 0.022uF 25V
C351	1-124-126-00	s	ELECT 47uF 20% 25V
C500	1-162-294-31	s	CERAMIC 0.001uF 10% 50V
C501	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C502	1-126-947-11	s	ELECT 47uF 20% 35V
C503	1-161-377-00	s	CERAMIC 0.0047uF 20% 50V
C504	1-124-927-11	s	ELECT 4.7uF 20% 100V
C505	1-124-927-11	s	ELECT 4.7uF 20% 100V
C506	1-124-499-11	s	ELECT, NONPOLAR 1uF 20% 50V
C507	1-124-903-11	s	ELECT 1uF 20% 50V
C508	1-124-126-00	s	ELECT 47uF 20% 25V
C509	1-162-282-31	s	CERAMIC 100PF 10% 50V
C510	1-162-199-31	s	CERAMIC 10PF 5% 50V
C519	1-162-284-31	s	CERAMIC 150PF 10% 50V
C520	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C521	1-162-283-31	s	CERAMIC 120PF 10% 50V
C522	1-162-219-31	s	CERAMIC 68PF 5% 50V
C523	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C524	1-124-902-00	s	ELECT 0.47uF 20% 50V
C525	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C526	1-161-379-00	s	CERAMIC 0.01uF 20% 25V
C527	1-104-665-11	s	ELECT 100uF 20% 25V
C530	1-161-494-00	s	CERAMIC 0.022uF 25V
C531	1-161-494-00	s	CERAMIC 0.022uF 25V
C532	1-126-157-11	s	ELECT 10uF 20% 16V
C533	1-126-157-11	s	ELECT 10uF 20% 16V
C601	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C602	1-130-483-00	s	MYLAR 0.01uF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C603	1-124-903-11	s	ELECT 1uF 20% 50V
C604	1-162-290-31	s	CERAMIC 470PF 10% 50V
C605	1-162-290-31	s	CERAMIC 470PF 10% 50V
CN100	1-560-898-00	o	CONNECTOR 10P, MALE
CN106	1-952-737-11	o	HARNESS, SUB (LD)
CN107	1-564-002-11	s	CONNECTOR 3P, MALE
CN110	1-506-471-11	s	CONNECTOR 6P, MALE
CN114	1-506-475-11	s	CONNECTOR 10P, MALE
CN116	1-506-471-11	s	CONNECTOR 6P, MALE
CN122	1-952-736-11	o	HARNESS, SUB (CAP)
CN140	1-952-735-11	o	HARNESS, SUB (AFM VCC)
CN141	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
CN142	1-952-734-11	o	HARNESS, SUB (AFM/CONT)
D104	8-719-200-02	s	DIODE 10E2
D105	8-719-200-02	s	DIODE 10E2
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-109-93	s	DIODE RD6.2ES-B2
D108	8-719-911-19	s	DIODE 1SS119
D109	8-719-911-19	s	DIODE 1SS119
D110	8-719-911-19	s	DIODE 1SS119
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-109-84	s	DIODE RD5.1ES-B1
D308	8-719-911-19	s	DIODE 1SS119
D309	8-719-911-19	s	DIODE 1SS119
D310	8-719-110-14	s	DIODE RD9.1ESB3
D311	8-719-981-00	s	DIODE ERC81-004
D312	8-719-981-00	s	DIODE ERC81-004
D313	8-719-200-02	s	DIODE 10E2
D314	8-719-200-02	s	DIODE 10E2
D315	8-719-911-19	s	DIODE 1SS119
D316	8-719-911-19	s	DIODE 1SS119
D317	8-719-911-19	s	DIODE 1SS119
D318	8-719-160-68	s	DIODE RD18FB2
D319	8-719-911-19	s	DIODE 1SS119
D320	8-719-109-76	s	DIODE RD4.3ES-B3
D321	8-719-115-53	s	DIODE RD6.2JS-T1B1
D322	8-719-110-17	s	DIODE RD10ES-B2
F101	⚠1-532-743-11	s	FUSE, 2A 125V
IC101	8-752-850-82	s	IC CXP80116-884Q
IC102	8-759-183-16	s	IC BR9021B
IC104	8-759-512-71	s	IC S-8054HNM
IC106	8-759-981-96	s	IC RC4560D
IC107	8-759-987-91	s	IC BA10393
IC108	8-759-135-80	s	IC UPC358C
IC109	8-759-983-45	s	IC BA6238A
IC111	8-759-512-71	s	IC S-8054HNM
IC301	8-759-135-80	s	IC UPC358C
IC302	8-759-135-80	s	IC UPC358C
IC303	8-759-140-53	s	IC UPD4053BC
IC304	8-759-984-03	s	IC LM339N
IC305	8-759-984-03	s	IC LM339N
IC306	8-759-154-19	s	IC UPD75106CW-184
IC307	8-759-340-13	s	IC HD14013BP
IC308	8-759-045-38	s	IC MC14538BCP
IC310	8-759-135-80	s	IC UPC358C
IC500	8-759-632-58	s	IC M52435P
IC503	8-759-140-53	s	IC UPD4053BC

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Ref. No. or Q'ty	Part No.	SP	Description
IC601	8-759-987-91	s	IC BA10393
L101	1-410-482-31	s	INDUCTOR 100uH
L301	1-408-519-00	s	COIL, CHOKE
L302	1-408-519-00	s	COIL, CHOKE
L503	1-408-413-00	s	INDUCTOR 22uH
L504	1-410-482-31	s	INDUCTOR 100uH
L505	1-408-413-00	s	INDUCTOR 22uH
PS101	⚠1-532-685-00	s	LINK, IC 0.6A
PS103	⚠1-532-637-00	s	LINK, IC 1.0A
Q100	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q101	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q102	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q105	8-729-119-76	s	TRANSISTOR 2SA1115P
Q106	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q109	8-729-119-76	s	TRANSISTOR 2SA1115P
Q110	8-729-119-76	s	TRANSISTOR 2SA1115P
Q111	8-729-140-96	s	TRANSISTOR 2SD774-4
Q112	8-729-924-90	s	TRANSISTOR 2SB1370-EF
Q114	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q115	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q116	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q118	8-729-900-36	s	TRANSISTOR DTC124ES
Q119	8-729-900-89	s	TRANSISTOR DTC144ES
Q301	8-729-900-89	s	TRANSISTOR DTC144ES
Q302	8-729-119-76	s	TRANSISTOR 2SA1115P
Q303	8-729-900-89	s	TRANSISTOR DTC144ES
Q304	8-729-119-76	s	TRANSISTOR 2SA1115P
Q305	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q306	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q307	8-729-119-76	s	TRANSISTOR 2SA1115P
Q308	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q309	8-729-119-76	s	TRANSISTOR 2SA1115P
Q310	8-729-804-87	s	TRANSISTOR 2SB1142-T
Q311	8-729-119-76	s	TRANSISTOR 2SA1115P
Q312	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q313	8-729-119-76	s	TRANSISTOR 2SA1115P
Q314	8-729-320-60	s	TRANSISTOR 2SD788-34
Q315	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q316	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q317	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q318	8-729-119-76	s	TRANSISTOR 2SA1115P
Q319	8-729-320-60	s	TRANSISTOR 2SD788-34
Q320	8-729-900-89	s	TRANSISTOR DTC144ES
Q321	8-729-900-89	s	TRANSISTOR DTC144ES
Q322	8-729-900-89	s	TRANSISTOR DTC144ES
Q323	8-729-900-89	s	TRANSISTOR DTC144ES
Q324	8-729-900-89	s	TRANSISTOR DTC144ES
Q325	8-729-900-89	s	TRANSISTOR DTC144ES
Q326	8-729-900-89	s	TRANSISTOR DTC144ES
Q327	8-729-900-89	s	TRANSISTOR DTC144ES
Q328	8-729-900-89	s	TRANSISTOR DTC144ES
Q331	8-729-119-76	s	TRANSISTOR 2SA1115P
Q332	8-729-900-89	s	TRANSISTOR DTC144ES
Q333	8-729-900-89	s	TRANSISTOR DTC144ES
Q501	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q515	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q516	8-729-119-79	s	TRANSISTOR 2SC2785-FEK

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Ref. No. or Q'ty	Part No.	SP	Description
Q517	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q518	8-729-119-77	s	TRANSISTOR 2SA1175-FEK
Q519	8-729-900-65	s	TRANSISTOR DTA144ES
Q520	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q521	8-729-900-65	s	TRANSISTOR DTA144ES
Q701	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q702	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q703	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
R1	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R2	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R3	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R4	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R5	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R6	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R7	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R8	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R9	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R10	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R11	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R12	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R13	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R14	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R15	1-216-679-11	s	METAL, CHIP 15K 0.5% 1/10W
R16	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R100	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R101	1-249-413-11	s	CARBON 470 5% 1/4W
R102	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R103	1-249-414-11	s	CARBON 560 5% 1/4W
R111	1-249-429-11	s	CARBON 10K 5% 1/4W
R112	1-249-437-11	s	CARBON 47K 5% 1/4W
R113	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R114	1-247-903-00	s	CARBON 1M 5% 1/4W
R115	1-249-417-11	s	CARBON 1K 5% 1/4W
R116	1-249-417-11	s	CARBON 1K 5% 1/4W
R117	1-249-409-11	s	CARBON 220 5% 1/4W
R118	1-249-417-11	s	CARBON 1K 5% 1/4W
R119	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R122	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R123	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R126	1-249-429-11	s	CARBON 10K 5% 1/4W
R127	1-249-429-11	s	CARBON 10K 5% 1/4W
R128	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R129	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R133	1-249-429-11	s	CARBON 10K 5% 1/4W
R134	1-249-429-11	s	CARBON 10K 5% 1/4W
R135	1-249-429-11	s	CARBON 10K 5% 1/4W
R136	1-247-885-00	s	CARBON 180K 5% 1/4W
R137	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R138	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R139	1-249-437-11	s	CARBON 47K 5% 1/4W
R140	1-249-437-11	s	CARBON 47K 5% 1/4W
R141	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R144	1-247-903-00	s	CARBON 1M 5% 1/4W
R145	1-249-441-11	s	CARBON 100K 5% 1/4W
R146	1-249-441-11	s	CARBON 100K 5% 1/4W
R147	1-249-441-11	s	CARBON 100K 5% 1/4W
R148	1-247-887-00	s	CARBON 220K 5% 1/4W
R149	1-249-433-11	s	CARBON 22K 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R150	1-249-433-11	s	CARBON 22K 5% 1/4W
R151	1-249-437-11	s	CARBON 47K 5% 1/4W
R152	1-249-437-11	s	CARBON 47K 5% 1/4W
R153	1-249-437-11	s	CARBON 47K 5% 1/4W
R155	1-249-429-11	s	CARBON 10K 5% 1/4W
R156	1-249-429-11	s	CARBON 10K 5% 1/4W
R157	1-249-429-11	s	CARBON 10K 5% 1/4W
R158	1-249-429-11	s	CARBON 10K 5% 1/4W
R159	1-249-429-11	s	CARBON 10K 5% 1/4W
R160	1-249-429-11	s	CARBON 10K 5% 1/4W
R161	1-249-429-11	s	CARBON 10K 5% 1/4W
R162	1-249-429-11	s	CARBON 10K 5% 1/4W
R163	1-249-441-11	s	CARBON 100K 5% 1/4W
R164	1-249-441-11	s	CARBON 100K 5% 1/4W
R165	1-249-441-11	s	CARBON 100K 5% 1/4W
R166	1-247-807-31	s	CARBON 100 5% 1/4W
R167	1-247-807-31	s	CARBON 100 5% 1/4W
R168	1-247-807-31	s	CARBON 100 5% 1/4W
R169	1-249-417-11	s	CARBON 1K 5% 1/4W
R170	1-249-417-11	s	CARBON 1K 5% 1/4W
R171	1-249-417-11	s	CARBON 1K 5% 1/4W
R172	1-249-433-11	s	CARBON 22K 5% 1/4W
R173	1-247-887-00	s	CARBON 220K 5% 1/4W
R174	1-249-437-11	s	CARBON 47K 5% 1/4W
R175	1-249-437-11	s	CARBON 47K 5% 1/4W
R176	1-249-417-11	s	CARBON 1K 5% 1/4W
R177	1-249-417-11	s	CARBON 1K 5% 1/4W
R178	1-249-429-11	s	CARBON 10K 5% 1/4W
R179	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R180	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R182	1-249-433-11	s	CARBON 22K 5% 1/4W
R183	1-247-887-00	s	CARBON 220K 5% 1/4W
R184	1-249-429-11	s	CARBON 10K 5% 1/4W
R185	1-249-417-11	s	CARBON 1K 5% 1/4W
R194	1-249-413-11	s	CARBON 470 5% 1/4W
R195	1-249-417-11	s	CARBON 1K 5% 1/4W
R196	1-249-417-11	s	CARBON 1K 5% 1/4W
R197	1-249-417-11	s	CARBON 1K 5% 1/4W
R198	1-249-429-11	s	CARBON 10K 5% 1/4W
R199	1-249-433-11	s	CARBON 22K 5% 1/4W
R200	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R201	1-249-441-11	s	CARBON 100K 5% 1/4W
R202	1-249-417-11	s	CARBON 1K 5% 1/4W
R205	1-249-417-11	s	CARBON 1K 5% 1/4W
R206	1-249-417-11	s	CARBON 1K 5% 1/4W
R208	1-249-417-11	s	CARBON 1K 5% 1/4W
R209	1-249-417-11	s	CARBON 1K 5% 1/4W
R211	1-249-429-11	s	CARBON 10K 5% 1/4W
R212	1-247-903-00	s	CARBON 1M 5% 1/4W
R213	1-247-903-00	s	CARBON 1M 5% 1/4W
R214	1-247-903-00	s	CARBON 1M 5% 1/4W
R215	1-249-437-11	s	CARBON 47K 5% 1/4W
R216	1-249-417-11	s	CARBON 1K 5% 1/4W
R217	1-249-417-11	s	CARBON 1K 5% 1/4W
R218	1-249-417-11	s	CARBON 1K 5% 1/4W
R219	1-249-417-11	s	CARBON 1K 5% 1/4W
R220	1-249-417-11	s	CARBON 1K 5% 1/4W
R225	1-249-441-11	s	CARBON 100K 5% 1/4W
R301	1-249-410-11	s	CARBON 270 5% 1/4W

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Ref. No. or Q'ty	Part No.	SP	Description
R302	1-249-429-11	s	CARBON 10K 5% 1/4W
R303	1-249-429-11	s	CARBON 10K 5% 1/4W
R304	1-249-415-11	s	CARBON 680 5% 1/4W
R305	1-249-435-11	s	CARBON 33K 5% 1/4W
R306	1-249-435-11	s	CARBON 33K 5% 1/4W
R307	1-247-891-00	s	CARBON 330K 5% 1/4W
R308	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R309	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R310	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R311	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R312	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R313	1-249-437-11	s	CARBON 47K 5% 1/4W
R314	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R315	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R316	1-249-441-11	s	CARBON 100K 5% 1/4W
R317	1-249-441-11	s	CARBON 100K 5% 1/4W
R318	1-249-409-11	s	CARBON 220 5% 1/4W
R319	1-249-429-11	s	CARBON 10K 5% 1/4W
R320	1-249-408-11	s	CARBON 180 5% 1/4W
R321	1-249-429-11	s	CARBON 10K 5% 1/4W
R322	1-249-417-11	s	CARBON 1K 5% 1/4W
R324	1-249-409-11	s	CARBON 220 5% 1/4W
R325	1-249-417-11	s	CARBON 1K 5% 1/4W
R326	1-247-903-00	s	CARBON 1M 5% 1/4W
R327	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R328	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R329	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R330	1-247-903-00	s	CARBON 1M 5% 1/4W
R331	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R332	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R333	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R334	1-247-903-00	s	CARBON 1M 5% 1/4W
R335	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R336	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R337	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R338	1-247-903-00	s	CARBON 1M 5% 1/4W
R339	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R340	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R341	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R342	1-249-438-11	s	CARBON 56K 5% 1/4W
R343	1-249-438-11	s	CARBON 56K 5% 1/4W
R344	1-249-417-11	s	CARBON 1K 5% 1/4W
R345	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R346	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R347	1-215-407-00	s	METAL 270 1% 1/6W
R348	1-215-420-00	s	METAL 910 1% 1/6W
R349	1-247-807-31	s	CARBON 100 5% 1/4W
R350	1-247-807-31	s	CARBON 100 5% 1/4W
R351	1-247-807-31	s	CARBON 100 5% 1/4W
R352	1-247-807-31	s	CARBON 100 5% 1/4W
R353	1-249-441-11	s	CARBON 100K 5% 1/4W
R354	1-249-441-11	s	CARBON 100K 5% 1/4W
R355	1-247-895-00	s	CARBON 470K 5% 1/4W
R356	1-247-895-00	s	CARBON 470K 5% 1/4W
R357	1-247-891-00	s	CARBON 330K 5% 1/4W
R358	1-249-437-11	s	CARBON 47K 5% 1/4W
R359	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R360	1-249-437-11	s	CARBON 47K 5% 1/4W
R361	1-249-437-11	s	CARBON 47K 5% 1/4W

(SS-59D BOARD / SVO-965P, UC)

Ref. No. or Q'ty	Part No.	SP	Description
R362	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R363	1-249-433-11	s	CARBON 22K 5% 1/4W
R364	1-249-441-11	s	CARBON 100K 5% 1/4W
R365	1-215-407-00	s	METAL 270 1% 1/6W
R366	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R367	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R368	1-249-409-11	s	CARBON 220 5% 1/4W
R369	1-215-420-00	s	METAL 910 1% 1/6W
R370	1-249-409-11	s	CARBON 220 5% 1/4W
R371	1-249-417-11	s	CARBON 1K 5% 1/4W
R372	1-247-887-00	s	CARBON 220K 5% 1/4W
R373	1-247-895-00	s	CARBON 470K 5% 1/4W
R375	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R376	1-249-441-11	s	CARBON 100K 5% 1/4W
R377	1-249-441-11	s	CARBON 100K 5% 1/4W
R378	1-249-429-11	s	CARBON 10K 5% 1/4W
R379	1-249-429-11	s	CARBON 10K 5% 1/4W
R381	1-216-365-00	s	METAL 0.47 5% 2W
R383	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R384	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R385	1-249-409-11	s	CARBON 220 5% 1/4W
R387	1-249-409-11	s	CARBON 220 5% 1/4W
R388	1-249-417-11	s	CARBON 1K 5% 1/4W
R389	1-247-887-00	s	CARBON 220K 5% 1/4W
R390	1-247-895-00	s	CARBON 470K 5% 1/4W
R392	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R393	1-249-441-11	s	CARBON 100K 5% 1/4W
R394	1-249-441-11	s	CARBON 100K 5% 1/4W
R395	1-249-429-11	s	CARBON 10K 5% 1/4W
R396	1-249-429-11	s	CARBON 10K 5% 1/4W
R398	1-216-365-00	s	METAL 0.47 5% 2W
R399	1-249-437-11	s	CARBON 47K 5% 1/4W
R401	1-249-429-11	s	CARBON 10K 5% 1/4W
R402	1-249-429-11	s	CARBON 10K 5% 1/4W
R403	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R404	1-249-438-11	s	CARBON 56K 5% 1/4W
R405	1-249-438-11	s	CARBON 56K 5% 1/4W
R406	1-249-415-11	s	CARBON 680 5% 1/4W
R407	1-249-429-11	s	CARBON 10K 5% 1/4W
R408	1-249-429-11	s	CARBON 10K 5% 1/4W
R409	1-249-429-11	s	CARBON 10K 5% 1/4W
R410	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R411	1-249-438-11	s	CARBON 56K 5% 1/4W
R412	1-249-438-11	s	CARBON 56K 5% 1/4W
R413	1-249-415-11	s	CARBON 680 5% 1/4W
R414	1-249-429-11	s	CARBON 10K 5% 1/4W
R415	1-249-437-11	s	CARBON 47K 5% 1/4W
R416	1-249-429-11	s	CARBON 10K 5% 1/4W
R417	1-249-429-11	s	CARBON 10K 5% 1/4W
R418	1-249-429-11	s	CARBON 10K 5% 1/4W
R419	1-249-429-11	s	CARBON 10K 5% 1/4W
R420	1-249-437-11	s	CARBON 47K 5% 1/4W
R421	1-249-429-11	s	CARBON 10K 5% 1/4W
R422	1-249-417-11	s	CARBON 1K 5% 1/4W
R423	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R424	1-249-437-11	s	CARBON 47K 5% 1/4W
R425	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R426	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R427	1-249-429-11	s	CARBON 10K 5% 1/4W

Ref. No. or Q'ty	Part No.	SP	Description
R500	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R501	1-249-413-11	s	CARBON 470 5% 1/4W
R502	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R503	1-247-889-00	s	CARBON 270K 5% 1/4W
R504	1-249-417-11	s	CARBON 1K 5% 1/4W
R505	1-249-429-11	s	CARBON 10K 5% 1/4W
R506	1-249-429-11	s	CARBON 10K 5% 1/4W
R507	1-249-429-11	s	CARBON 10K 5% 1/4W
R508	1-249-429-11	s	CARBON 10K 5% 1/4W
R509	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R510	1-249-429-11	s	CARBON 10K 5% 1/4W
R511	1-249-429-11	s	CARBON 10K 5% 1/4W
R535	1-247-807-31	s	CARBON 100 5% 1/4W
R551	1-249-417-11	s	CARBON 1K 5% 1/4W
R552	1-249-441-11	s	CARBON 100K 5% 1/4W
R553	1-249-437-11	s	CARBON 47K 5% 1/4W
R554	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R555	1-249-433-11	s	CARBON 22K 5% 1/4W
R556	1-249-417-11	s	CARBON 1K 5% 1/4W
R557	1-249-417-11	s	CARBON 1K 5% 1/4W
R558	1-249-413-11	s	CARBON 470 5% 1/4W
R559	1-215-404-00	s	METAL 200 1% 1/6W
R560	1-247-895-00	s	CARBON 470K 5% 1/4W
R561	1-249-417-11	s	CARBON 1K 5% 1/4W
R562	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R563	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R564	1-249-410-11	s	CARBON 270 5% 1/4W
R565	1-249-402-11	s	CARBON 56 5% 1/4W
R566	1-249-437-11	s	CARBON 47K 5% 1/4W
R567	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R568	1-249-435-11	s	CARBON 33K 5% 1/4W
R569	1-249-429-11	s	CARBON 10K 5% 1/4W
R570	1-249-433-11	s	CARBON 22K 5% 1/4W
R571	1-249-441-11	s	CARBON 100K 5% 1/4W
R572	1-249-441-11	s	CARBON 100K 5% 1/4W
R573	1-249-433-11	s	CARBON 22K 5% 1/4W
R575	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R576	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R577	1-249-423-11	s	CARBON 3.3K 5% 1/4W
R578	1-249-429-11	s	CARBON 10K 5% 1/4W
R601	1-249-441-11	s	CARBON 100K 5% 1/4W
R602	1-249-441-11	s	CARBON 100K 5% 1/4W
R603	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R604	1-249-413-11	s	CARBON 470 5% 1/4W
R605	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R606	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R607	1-249-425-11	s	CARBON 4.7K 5% 1/4W
R608	1-247-903-00	s	CARBON 1M 5% 1/4W
R609	1-249-429-11	s	CARBON 10K 5% 1/4W
R610	1-247-903-00	s	CARBON 1M 5% 1/4W
R611	1-249-429-11	s	CARBON 10K 5% 1/4W
R701	1-247-887-00	s	CARBON 220K 5% 1/4W
R702	1-247-887-00	s	CARBON 220K 5% 1/4W
R703	1-247-887-00	s	CARBON 220K 5% 1/4W
RB101	1-235-196-00	s	RESISTOR BLOCK 100kx8
RB301	1-235-195-00	s	RESISTOR BLOCK 10KX8
RV301	1-241-785-11	s	RES, ADJ METAL 10k
RV302	1-241-785-11	s	RES, ADJ METAL 10k

Ref. No. or Q'ty	Part No.	SP	Description
S101	1-570-623-11	s	SWITCH, DIP 8-CKT
X101	1-567-962-11	s	CRYSTAL 8MHz
X301	1-567-192-11	s	RESONATOR, CERAMIC 4.00MHz

SW-668 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-650-155-11	o	PRINTED CIRCUIT BOARD, SW-668
S2	1-570-953-11	s	SWITCH, PUSH (1 KEY)

TR-68A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-637-238-12	o	PRINTED CIRCUIT BOARD, TR-68
CN670	1-564-004-11	o	CONNECTOR 5P, MALE
RV101	1-241-334-11	s	RES, VAR CARBON 100K
RV102	1-228-997-00	s	RES, ADJ METAL 100K

VO-48 BOARD / SVO-965P

This board includes DL-44 board.

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-492-A	o	MOUNTED CIRCUIT BOARD, VO-48
1pc	3-168-157-02	o	BRACKET (R), VO
1pc	3-168-158-01	o	BRACKET (L), VO
2pcs	4-886-821-11	s	SCREW, S TIGHT, +PTTWH 3X6
1pc	1-952-738-11	o	HARNESS, SUB (RP)
C101	1-126-933-11	s	ELECT 100uF 20% 16V
C102	1-124-584-00	s	ELECT 100uF 20% 10V
C103	1-124-584-00	s	ELECT 100uF 20% 10V
C104	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C105	1-126-933-11	s	ELECT 100uF 20% 16V
C106	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C108	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C110	1-124-584-00	s	ELECT 100uF 20% 10V
C111	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C112	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C113	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C114	1-124-584-00	s	ELECT 100uF 20% 10V
C115	1-126-157-11	s	ELECT 10uF 20% 16V
C116	1-126-157-11	s	ELECT 10uF 20% 16V
C117	1-163-253-11	s	CERAMIC, CHIP 120PF 5% 50V
C118	1-126-301-11	s	ELECT 1uF 20% 50V
C119	1-163-241-11	s	CERAMIC, CHIP 39PF 5% 50V
C120	1-163-121-00	s	CERAMIC, CHIP 150PF 5% 50V
C121	1-126-933-11	s	ELECT 100uF 20% 16V
C122	1-163-121-00	s	CERAMIC, CHIP 150PF 5% 50V
C123	1-126-157-11	s	ELECT 10uF 20% 16V
C124	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C126	1-163-139-00	s	CERAMIC, CHIP 820PF 5% 50V
C127	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C128	1-163-241-11	s	CERAMIC, CHIP 39PF 5% 50V
C129	1-163-249-11	s	CERAMIC, CHIP 82pF 5% 50V
C130	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C131	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C132	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C133	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C134	1-126-157-11	s	ELECT 10uF 20% 16V
C135	1-124-589-11	s	ELECT 47uF 20% 16V
C136	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C137	1-126-933-11	s	ELECT 100uF 20% 16V
C138	1-163-104-00	s	CERAMIC, CHIP 30PF 5% 50V
C139	1-126-933-11	s	ELECT 100uF 20% 16V
C140	1-126-157-11	s	ELECT 10uF 20% 16V
C141	1-163-249-11	s	CERAMIC, CHIP 82pF 5% 50V
C156	1-126-162-11	s	ELECT 3.3uF 20% 50V
C157	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C158	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C159	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C160	1-124-638-11	s	ELECT 22uF 20% 10V
C161	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C162	1-126-933-11	s	ELECT 100uF 20% 16V
C163	1-126-157-11	s	ELECT 10uF 20% 16V
C164	1-126-163-11	s	ELECT 4.7uF 20% 50V
C165	1-124-638-11	s	ELECT 22uF 20% 10V
C166	1-124-638-11	s	ELECT 22uF 20% 10V
C168	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C169	1-163-131-00	s	CERAMIC, CHIP 390PF 5% 50V
C170	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C171	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V

(VO-48 BOARD / SVO-965P)

Ref. No. or Q'ty	Part No.	SP	Description
C173	1-163-124-00	s	CERAMIC, CHIP 200PF 5% 50V
C174	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C175	1-124-589-11	s	ELECT 47uF 20% 16V
C176	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C177	1-163-139-00	s	CERAMIC, CHIP 820PF 5% 50V
C178	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C179	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C180	1-124-589-11	s	ELECT 47uF 20% 16V
C181	1-126-933-11	s	ELECT 100uF 20% 16V
C182	1-126-933-11	s	ELECT 100uF 20% 16V
C183	1-163-237-11	s	CERAMIC, CHIP 27PF 5% 50V
C185	1-126-933-11	s	ELECT 100uF 20% 16V
C186	1-163-234-11	s	CERAMIC, CHIP 20PF 5% 50V
C187	1-126-933-11	s	ELECT 100uF 20% 16V
C190	1-126-933-11	s	ELECT 100uF 20% 16V
C191	1-163-224-11	s	CERAMIC, CHIP 7PF 50V
C192	1-126-933-11	s	ELECT 100uF 20% 16V
C193	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C194	1-124-589-11	s	ELECT 47uF 20% 16V
C195	1-126-301-11	s	ELECT 1uF 20% 50V
C196	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C197	1-124-584-00	s	ELECT 100uF 20% 10V
C198	1-124-584-00	s	ELECT 100uF 20% 10V
C199	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C200	1-126-933-11	s	ELECT 100uF 20% 16V
C201	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C202	1-126-933-11	s	ELECT 100uF 20% 16V
C203	1-124-257-00	s	ELECT 2.2uF 20% 50V
C204	1-126-933-11	s	ELECT 100uF 20% 16V
C205	1-126-933-11	s	ELECT 100uF 20% 16V
C206	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C207	1-126-933-11	s	ELECT 100uF 20% 16V
C208	1-124-589-11	s	ELECT 47uF 20% 16V
C209	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C210	1-126-157-11	s	ELECT 10uF 20% 16V
C211	1-126-933-11	s	ELECT 100uF 20% 16V
C213	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C215	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C216	1-163-120-00	s	CERAMIC, CHIP 130PF 5% 50V
C217	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C218	1-163-235-11	s	CERAMIC, CHIP 22PF 5% 50V
C219	1-163-275-11	s	CERAMIC, CHIP 0.001uF 5% 50V
C220	1-126-933-11	s	ELECT 100uF 20% 16V
C221	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C222	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C223	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C301	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C302	1-163-106-00	s	CERAMIC, CHIP 36PF 5% 50V
C303	1-163-122-00	s	CERAMIC 160PF 5% 50V
C304	1-163-124-00	s	CERAMIC, CHIP 200PF 5% 50V
C305	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C306	1-163-120-00	s	CERAMIC, CHIP 130PF 5% 50V
C307	1-124-589-11	s	ELECT 47uF 20% 16V
C308	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C309	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C310	1-163-125-00	s	CERAMIC, CHIP 220PF 5% 50V
C311	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C312	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C314	1-126-933-11	s	ELECT 100uF 20% 16V

(VO-48 BOARD / SVO-965P)

Ref. No. or Q'ty	Part No.	SP	Description
C315	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C316	1-163-114-00	s	CERAMIC, CHIP 75PF 5% 50V
C317	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C318	1-126-163-11	s	ELECT 4.7uF 20% 50V
C319	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C320	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C321	1-126-301-11	s	ELECT 1uF 20% 50V
C322	1-163-121-00	s	CERAMIC, CHIP 150PF 5% 50V
C323	1-124-465-00	s	ELECT 0.47uF 20% 50V
C324	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C325	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C326	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C327	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C328	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C329	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C330	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C331	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C332	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C333	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V
C334	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C335	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C336	1-126-924-11	s	ELECT 330uF 20% 10V
C337	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C338	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C339	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C340	1-126-163-11	s	ELECT 4.7uF 20% 50V
C341	1-164-336-11	s	CERAMIC, CHIP 0.33uF 25V
C342	1-163-833-00	s	CERAMIC, CHIP 0.068uF 25V
C345	1-163-253-11	s	CERAMIC, CHIP 120PF 5% 50V
C346	1-126-924-11	s	ELECT 330uF 20% 10V
C347	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C348	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C349	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C350	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C351	1-163-108-00	s	CERAMIC, CHIP 43PF 5% 50V
C352	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C353	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C354	1-163-110-00	s	CERAMIC, CHIP 51PF 5% 50V
C355	1-163-257-11	s	CERAMIC, CHIP 180PF 5% 50V
C356	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C357	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C358	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C359	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C360	1-163-253-11	s	CERAMIC, CHIP 120PF 5% 50V
C361	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V
C362	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C401	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C402	1-124-589-11	s	ELECT 47uF 20% 16V
C403	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C404	1-124-589-11	s	ELECT 47uF 20% 16V
C405	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C406	1-126-933-11	s	ELECT 100uF 20% 16V
C407	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C408	1-126-933-11	s	ELECT 100uF 20% 16V
C409	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
CN201	1-506-470-11	s	CONNECTOR 5P, MALE
CN202	1-506-476-11	s	CONNECTOR, 11P, MALE
CN203	1-506-473-11	o	CONNECTOR 8P, MALE
CN204	1-506-470-11	s	CONNECTOR 5P, MALE

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Ref. No. or Q'ty	Part No.	SP	Description
CN211	1-564-002-11	s	CONNECTOR 3P, MALE
CN212	1-564-002-41	s	CONNECTOR 3P, MALE
CN301	1-569-391-11	o	CONNECTOR 6P, MALE
CV301	1-141-260-00	s	CAP, TRIMMER 50PF
D102	8-719-800-76	s	DIODE 1SS226
D103	8-719-119-98	s	DIODE RD3.6ES-L2
D104	8-719-801-78	s	DIODE 1SS184
D301	8-719-801-78	s	DIODE 1SS184
D310	8-719-018-80	s	DIODE ND411G-2
DL301	1-415-602-11	s	DELAY LINE 70nS
FL101	1-236-312-11	s	FILTER, BAND-PASS 0.1MHz
FL301	1-236-311-11	s	FILTER, BAND-PASS 5.06MHz
FL302	1-236-835-11	s	FILTER, BANDPASS
IC101	8-759-420-07	s	IC AN3231K
IC103	8-759-822-05	s	IC LA7213
IC104	8-752-006-12	s	IC CX20061
IC105	8-759-927-56	s	IC BA7021
IC301	8-759-320-78	s	IC HA118016NT
IC401	8-759-948-44	s	IC S-80250AG
IC402	8-759-701-59	s	IC NJM78M09FA
L101	1-410-482-31	s	INDUCTOR 100uH
L102	1-410-482-31	s	INDUCTOR 100uH
L103	1-408-419-00	s	INDUCTOR 68uH
L104	1-408-420-00	s	INDUCTOR 82uH
L105	1-408-422-00	s	INDUCTOR 120uH
L106	1-408-419-00	s	INDUCTOR 68uH
L107	1-410-482-31	s	INDUCTOR 100uH
L109	1-410-470-11	s	INDUCTOR 10uH
L110	1-408-423-00	s	INDUCTOR 150uH
L117	1-410-482-31	s	INDUCTOR 100uH
L118	1-410-482-31	s	INDUCTOR 100uH
L119	1-410-478-11	s	INDUCTOR 47uH
L120	1-408-418-00	s	INDUCTOR 56uH
L121	1-410-482-31	s	INDUCTOR 100uH
L122	1-410-482-31	s	INDUCTOR 100uH
L123	1-410-482-31	s	INDUCTOR 100uH
L124	1-410-482-31	s	INDUCTOR 100uH
L125	1-410-482-31	s	INDUCTOR 100uH
L127	1-408-413-00	s	INDUCTOR 22uH
L128	1-408-411-00	s	INDUCTOR 15uH
L302	1-408-424-00	s	INDUCTOR 180uH
L303	1-408-416-00	s	INDUCTOR 39uH
L304	1-410-482-31	s	INDUCTOR 100uH
L305	1-408-416-00	s	INDUCTOR 39uH
L306	1-410-482-31	s	INDUCTOR 100uH
L307	1-408-406-00	s	INDUCTOR 5.6uH
L308	1-408-408-00	s	INDUCTOR 8.2uH
L309	1-412-447-11	s	INDUCTOR 3.9mH
L310	1-408-411-00	s	INDUCTOR 15uH
L311	1-410-470-11	s	INDUCTOR 10uH
L312	1-410-473-11	s	INDUCTOR 18uH
L313	1-410-476-11	s	INDUCTOR 33uH
L314	1-408-414-00	s	INDUCTOR 27uH
L315	1-410-482-31	s	INDUCTOR 100uH
L316	1-410-478-11	s	INDUCTOR 47uH
L317	1-408-411-00	s	INDUCTOR 15uH

Ref. No. or Q'ty	Part No.	SP	Description
L318	1-408-422-00	s	INDUCTOR 120uH
Q101	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q102	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q103	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q107	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q108	8-729-216-22	s	TRANSISTOR 2SA1162
Q109	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q110	8-729-202-38	s	TRANSISTOR 2SC3326N
Q111	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q112	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q113	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q114	8-729-901-01	s	TRANSISTOR DTC144EK
Q120	8-729-901-04	s	TRANSISTOR DTA114EK
Q121	8-729-216-22	s	TRANSISTOR 2SA1162
Q122	8-729-216-22	s	TRANSISTOR 2SA1162
Q123	8-729-901-01	s	TRANSISTOR DTC144EK
Q124	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q125	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q126	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q127	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q128	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q129	8-729-202-38	s	TRANSISTOR 2SC3326N
Q130	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q131	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q132	8-729-216-22	s	TRANSISTOR 2SA1162
Q133	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q134	8-729-119-79	s	TRANSISTOR 2SC2785-FEK
Q135	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q136	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q301	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q302	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q303	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q304	8-729-216-22	s	TRANSISTOR 2SA1162
Q306	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q307	8-729-202-38	s	TRANSISTOR 2SC3326N
Q309	8-729-901-01	s	TRANSISTOR DTC144EK
Q310	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q311	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q312	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q313	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q314	8-729-202-38	s	TRANSISTOR 2SC3326N
Q315	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q316	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q317	8-729-901-01	s	TRANSISTOR DTC144EK
Q318	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q319	8-729-216-22	s	TRANSISTOR 2SA1162
Q320	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q321	8-729-202-38	s	TRANSISTOR 2SC3326N
Q322	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q401	8-729-901-01	s	TRANSISTOR DTC144EK
R101	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R102	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R103	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R104	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R105	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R106	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R107	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R108	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W

Ref. No. or Q'ty	Part No.	SP	Description
R109	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R110	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R112	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R113	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R115	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R116	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R117	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R118	1-216-295-00	s	METAL, CHIP 0
R119	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R120	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R121	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R122	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R124	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R125	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R126	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R127	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R128	1-216-091-00	s	METAL, CHIP 56K 5% 1/10W
R129	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R130	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R131	1-216-638-11	s	METAL, CHIP 300 0.5% 1/10W
R132	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R133	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R134	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R135	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R136	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R137	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R138	1-216-295-00	s	METAL, CHIP 0
R139	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R140	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R142	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R143	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R145	1-216-689-11	s	METAL, CHIP 39K 0.5% 1/10W
R146	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R147	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R148	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R149	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R150	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R151	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R156	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R157	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R158	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R159	1-216-129-00	s	METAL, CHIP 2.2M 5% 1/10W
R160	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R161	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R162	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R163	1-216-654-11	s	METAL, CHIP 1.3K 0.5% 1/10W
R164	1-216-638-11	s	METAL, CHIP 300 0.5% 1/10W
R165	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R166	1-216-063-00	s	METAL, CHIP 3.9K 5% 1/10W
R167	1-216-063-00	s	METAL, CHIP 3.9K 5% 1/10W
R168	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R169	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R170	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R171	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R172	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R174	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R175	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R176	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R177	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R178	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R179	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R180	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R181	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R182	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R183	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R184	1-216-648-11	s	METAL, CHIP 750 0.5% 1/10W
R186	1-216-079-00	s	METAL, CHIP 18K 5% 1/10W
R187	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R188	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R189	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R190	1-216-673-11	s	METAL, CHIP 8.2K 0.5% 1/10W
R191	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R192	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R193	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R194	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R195	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R196	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R197	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R198	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R199	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R200	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R201	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R202	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R203	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R204	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R205	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R206	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R207	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R208	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R209	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R210	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R211	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R212	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R213	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R214	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R215	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R216	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R217	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R218	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R219	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R220	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R221	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R222	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R224	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R225	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R226	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R227	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R228	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R230	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R231	1-216-623-11	s	METAL, CHIP 68 0.5% 1/10W
R234	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R301	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R302	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R303	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R304	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R305	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R306	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R307	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R308	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R309	1-216-091-00	s	METAL, CHIP 56K 5% 1/10W
R310	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R311	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R312	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R313	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R314	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R315	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R316	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R317	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R318	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R319	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R320	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R321	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R322	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R323	1-216-657-11	s	METAL, CHIP 1.8K 0.5% 1/10W
R324	1-216-051-00	s	METAL, CHIP 1.2K 5% 1/10W
R325	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R326	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R327	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R328	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R329	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R330	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R331	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R332	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R333	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R334	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R335	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R336	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R337	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R338	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R339	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R340	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R341	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R342	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R343	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R344	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R345	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R346	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R347	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R348	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R349	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R350	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R351	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R352	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R353	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R354	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R355	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R356	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R357	1-215-425-00	s	METAL 1.5K 1% 1/6W
R358	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R359	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R360	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R361	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R362	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R363	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R364	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R365	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R366	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W

(VO-48 BOARD / SVO-965P)

Ref. No. or Q'ty	Part No.	SP	Description
R367	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R368	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R369	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R370	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R371	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R372	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R401	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R402	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
RV101	1-241-761-11	s	RES, ADJ METAL 1k
RV103	1-241-630-11	s	RES, ADJ CARBON 10K
RV104	1-241-628-11	s	RES, ADJ CARBON 2.2K
RV105	1-241-783-11	s	RES, ADJ METAL 2.2K
RV107	1-241-763-11	s	RES, ADJ METAL 4.7k
RV108	1-241-763-11	s	RES, ADJ METAL 4.7k
RV109	1-241-763-11	s	RES, ADJ METAL 4.7k
RV110	1-241-765-11	s	RES, ADJ METAL 22k
RV111	1-241-765-11	s	RES, ADJ METAL 22k
RV301	1-241-761-11	s	RES, ADJ METAL 1k
RV302	1-241-761-11	s	RES, ADJ METAL 1k
RV303	1-241-628-11	s	RES, ADJ CARBON 2.2K
X301	1-567-504-11	s	CRYSTAL 4.433619MHz

VO-48A BOARD / SVO-915P

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8275-323-A	o	MOUNTED CIRCUIT BOARD, VO-48A
1pc	3-168-157-02	o	BRACKET (R), VO
1pc	3-168-158-01	o	BRACKET (L), VO
2pcs	4-886-821-11	s	SCREW, S TIGHT, +PTTWH 3X6
1pc	1-952-738-11	o	HARNESS, SUB (RP)
C101	1-126-933-11	s	ELECT 100uF 20% 16V
C102	1-124-584-00	s	ELECT 100uF 20% 10V
C103	1-124-584-00	s	ELECT 100uF 20% 10V
C104	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C105	1-126-933-11	s	ELECT 100uF 20% 16V
C115	1-126-157-11	s	ELECT 10uF 20% 16V
C116	1-126-157-11	s	ELECT 10uF 20% 16V
C133	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C156	1-126-162-11	s	ELECT 3.3uF 20% 50V
C157	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C158	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C159	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C160	1-124-638-11	s	ELECT 22uF 20% 10V
C161	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C162	1-126-933-11	s	ELECT 100uF 20% 16V
C163	1-126-157-11	s	ELECT 10uF 20% 16V
C164	1-126-163-11	s	ELECT 4.7uF 20% 50V
C165	1-124-638-11	s	ELECT 22uF 20% 10V
C166	1-124-638-11	s	ELECT 22uF 20% 10V
C168	1-164-222-11	s	CERAMIC, CHIP 0.22uF 25V
C169	1-163-131-00	s	CERAMIC, CHIP 390PF 5% 50V
C170	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C171	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V
C173	1-163-124-00	s	CERAMIC, CHIP 200PF 5% 50V
C174	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C175	1-124-589-11	s	ELECT 47uF 20% 16V
C176	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C177	1-163-139-00	s	CERAMIC, CHIP 820PF 5% 50V
C178	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C179	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C180	1-124-589-11	s	ELECT 47uF 20% 16V
C181	1-126-933-11	s	ELECT 100uF 20% 16V
C182	1-126-933-11	s	ELECT 100uF 20% 16V
C183	1-163-237-11	s	CERAMIC, CHIP 27PF 5% 50V
C187	1-126-933-11	s	ELECT 100uF 20% 16V
C190	1-126-933-11	s	ELECT 100uF 20% 16V
C191	1-163-224-11	s	CERAMIC, CHIP 7PF 50V
C193	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C194	1-124-589-11	s	ELECT 47uF 20% 16V
C196	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C197	1-124-584-00	s	ELECT 100uF 20% 10V
C198	1-124-584-00	s	ELECT 100uF 20% 10V
C213	1-163-227-11	s	CERAMIC, CHIP 10PF 5% 50V
C215	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C216	1-163-120-00	s	CERAMIC, CHIP 130PF 5% 50V
C217	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C218	1-163-235-11	s	CERAMIC, CHIP 22PF 5% 50V
C220	1-126-933-11	s	ELECT 100uF 20% 16V
C222	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C318	1-126-163-11	s	ELECT 4.7uF 20% 50V
C319	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C320	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C321	1-126-301-11	s	ELECT 1uF 20% 50V
C322	1-163-121-00	s	CERAMIC, CHIP 150PF 5% 50V

(VO-48A BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
C323	1-124-465-00	s	ELECT 0.47uF 20% 50V
C325	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C326	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C327	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C328	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C329	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C330	1-163-263-11	s	CERAMIC, CHIP 330PF 5% 50V
C331	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C332	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C333	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V
C334	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C335	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C336	1-126-924-11	s	ELECT 330uF 20% 10V
C337	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C338	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C339	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C340	1-126-163-11	s	ELECT 4.7uF 20% 50V
C341	1-164-336-11	s	CERAMIC, CHIP 0.33uF 25V
C342	1-163-833-00	s	CERAMIC, CHIP 0.068uF 25V
C344	1-163-237-11	s	CERAMIC, CHIP 27PF 5% 50V
C345	1-163-253-11	s	CERAMIC, CHIP 120PF 5% 50V
C346	1-126-924-11	s	ELECT 330uF 20% 10V
C347	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C348	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C349	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C350	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C352	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C353	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C356	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 100V
C361	1-163-113-00	s	CERAMIC, CHIP 68PF 5% 50V
C362	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C403	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C404	1-124-589-11	s	ELECT 47uF 20% 16V
C405	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
C406	1-126-933-11	s	ELECT 100uF 20% 16V
C409	1-163-035-00	s	CERAMIC, CHIP 0.047uF 50V
CN201	1-506-470-11	s	CONNECTOR 5P, MALE
CN202	1-506-476-11	s	CONNECTOR, 11P, MALE
CN203	1-506-473-11	o	CONNECTOR 8P, MALE
CN211	1-564-002-11	s	CONNECTOR 3P, MALE
D102	8-719-800-76	s	DIODE 1SS226
D104	8-719-801-78	s	DIODE 1SS184
D301	8-719-801-78	s	DIODE 1SS184
D310	8-719-018-80	s	DIODE ND411G-2
FL101	1-236-312-11	s	FILTER, BAND-PASS 0.1MHz
FL301	1-236-311-11	s	FILTER, BAND-PASS 5.06MHz
FL302	1-236-835-11	s	FILTER, BANDPASS
IC101	8-759-420-07	s	IC AN3231K
IC103	8-759-822-05	s	IC LA7213
IC104	8-752-006-12	s	IC CX20061
IC301	8-759-320-78	s	IC HA118016NT
IC402	8-759-701-59	s	IC NJM78M09FA
L101	1-410-482-31	s	INDUCTOR 100uH
L110	1-408-423-00	s	INDUCTOR 150uH
L117	1-410-482-31	s	INDUCTOR 100uH
L118	1-410-482-31	s	INDUCTOR 100uH
L119	1-410-478-11	s	INDUCTOR 47uH

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Ref. No. or Q'ty	Part No.	SP	Description
L121	1-410-482-31	s	INDUCTOR 100uH
L125	1-410-482-31	s	INDUCTOR 100uH
L127	1-408-413-00	s	INDUCTOR 22uH
L128	1-408-411-00	s	INDUCTOR 15uH
L306	1-410-482-31	s	INDUCTOR 100uH
L309	1-412-447-11	s	INDUCTOR 3.9mH
L310	1-408-411-00	s	INDUCTOR 15uH
L311	1-410-470-11	s	INDUCTOR 10uH
L313	1-410-476-11	s	INDUCTOR 33uH
L315	1-410-482-31	s	INDUCTOR 100uH
L318	1-408-422-00	s	INDUCTOR 120uH
Q101	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q102	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q103	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q107	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q113	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q114	8-729-901-01	s	TRANSISTOR DTC144EK
Q120	8-729-901-04	s	TRANSISTOR DTA114EK
Q121	8-729-216-22	s	TRANSISTOR 2SA1162
Q124	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q125	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q126	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q127	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q135	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q309	8-729-901-01	s	TRANSISTOR DTC144EK
Q310	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q311	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q312	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q313	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q315	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q316	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q317	8-729-901-01	s	TRANSISTOR DTC144EK
Q318	8-729-230-49	s	TRANSISTOR 2SC2712-YG
R101	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R102	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R103	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R104	1-216-047-00	s	METAL, CHIP 820 5% 1/10W
R105	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R106	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R107	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R108	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R115	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R119	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R120	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R121	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R126	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R143	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R148	1-216-113-00	s	METAL, CHIP 470K 5% 1/10W
R149	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R150	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R151	1-216-676-11	s	METAL, CHIP 11K 0.5% 1/10W
R156	1-216-071-00	s	METAL, CHIP 8.2K 5% 1/10W
R157	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R158	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R159	1-216-129-00	s	METAL, CHIP 2.2M 5% 1/10W
R160	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R161	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R162	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W

(VO-48A BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
R163	1-216-654-11	s	METAL, CHIP 1.3K 0.5% 1/10W
R164	1-216-638-11	s	METAL, CHIP 300 0.5% 1/10W
R165	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R166	1-216-063-00	s	METAL, CHIP 3.9K 5% 1/10W
R167	1-216-063-00	s	METAL, CHIP 3.9K 5% 1/10W
R168	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R169	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R170	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R171	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R172	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R174	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R175	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R176	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R177	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R181	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R182	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R183	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R184	1-216-648-11	s	METAL, CHIP 750 0.5% 1/10W
R186	1-216-079-00	s	METAL, CHIP 18K 5% 1/10W
R187	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R188	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R189	1-216-051-00	s	METAL, CHIP 1.2K 5% 1/10W
R191	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R192	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R193	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R194	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R195	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R196	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R197	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R216	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R217	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R218	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R219	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R222	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R224	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R225	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R226	1-216-641-11	s	METAL, CHIP 390 0.5% 1/10W
R227	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R228	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R234	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R313	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R315	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R316	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R317	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R325	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R326	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R329	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R330	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R331	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R332	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R333	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R334	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R335	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R336	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R337	1-216-645-11	s	METAL, CHIP 560 0.5% 1/10W
R338	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R339	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R340	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R341	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W

(VO-48A BOARD / SVO-915P)

Ref. No. or Q'ty	Part No.	SP	Description
R342	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R343	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R344	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R345	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R346	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R347	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R348	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R349	1-216-077-00	s	METAL, CHIP 15K 5% 1/10W
R350	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R351	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R353	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R356	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R357	1-215-425-00	s	METAL 1.5K 1% 1/6W
R358	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R359	1-216-647-11	s	METAL, CHIP 680 0.5% 1/10W
R371	1-216-663-11	s	METAL, CHIP 3.3K 0.5% 1/10W
R372	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R402	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
RV101	1-241-761-11	s	RES, ADJ METAL 1k
RV105	1-241-783-11	s	RES, ADJ METAL 2.2K
RV107	1-241-763-11	s	RES, ADJ METAL 4.7k
RV108	1-241-763-11	s	RES, ADJ METAL 4.7k
RV109	1-241-763-11	s	RES, ADJ METAL 4.7k
RV110	1-241-765-11	s	RES, ADJ METAL 22k
RV111	1-241-765-11	s	RES, ADJ METAL 22k
RV302	1-241-761-11	s	RES, ADJ METAL 1k
X301	1-567-504-11	s	CRYSTAL 4.433619MHz

VR-125 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-639-704-11	o	PRINTED CIRCUIT BOARD, VR-125
CN154	1-506-478-11	s	CONNECTOR, 13P, MALE
CN155	1-564-004-11	o	CONNECTOR 5P, MALE
CN156	1-506-469-11	s	CONNECTOR 4P, MALE
CN157	1-506-468-11	s	CONNECTOR 3P, MALE
D1	8-719-802-11	s	LED TLUG154, GRN
D2	8-719-802-11	s	LED TLUG154, GRN
R1	1-216-238-91	s	METAL, CHIP 47K 5% 1/8W
R2	1-216-198-91	s	METAL, CHIP 1K 5% 1/8W
R3	1-216-198-91	s	METAL, CHIP 1K 5% 1/8W
R4	1-216-198-91	s	METAL, CHIP 1K 5% 1/8W
R5	1-216-295-00	s	METAL, CHIP 0
R6	1-216-296-00	s	METAL, CHIP 0 5% 1/8W
RV1	1-241-801-11	s	RES, VAR CARBON 20K
RV2	1-241-801-11	s	RES, VAR CARBON 20K
RV3	1-241-801-11	s	RES, VAR CARBON 20K
RV4	1-241-801-11	s	RES, VAR CARBON 20K
TP1	1-535-943-11	o	TERMINAL, TP

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-413-617-12	s	SWITCHING REGURALTOR (FOR UC)
1pc	⚠1-413-633-12	s	SWITCHING REGURALTOR (FOR EK)
2pcs	⚠1-532-743-11	s	FUSE, 2A, 125V "AC-103, SS-59D BOARDS"(FOR UC)
2pcs	⚠1-576-228-11	s	FUSE, 2A, 250V "AC-103A,SS-59B/C BARDS"(FOR EK)
CN905	⚠1-580-375-11	s	INLET, 3P, MALE "AC IN"
CN510	1-507-914-11	s	JACK, 6-PHONE, FEMALE "AUDIO IN" "AUDIO MONITOR"
CN511	1-580-703-11	s	JACK, 6-PHONE, FEMALE "CTRL P" "AUTO OFF" "STANDBY"
CN512	1-750-089-11	s	CONNECTOR, 3-BNC, FEMALE "VIDEO IN"
CN513	1-750-089-11	s	CONNECTOR, 3-BNC, FEMALE "VIDEO IN"
CN514	1-750-089-11	s	CONNECTOR, 3-BNC, FEMALE "VIDEO OUT" (SVO-965P ONLY)
H1001	8-848-615-11	s	DRUM ASS'Y, DZH-65A-R
	8-848-617-01	s	UPPER DRUM ASS'Y, DZR-65-R
H1002	X-3165-588-1	o	ACE HEAD ASS'Y
H1003	1-543-695-11	s	HEAD, FE
J1001	1-507-251-XX	s	JACK, PHONE, FEMALE "REMOTE"
M1002	8-835-350-02	s	MOTOR, DC U-26 "CAPSTAN"
M1003	8-835-501-01	s	MOTOR, DC SRV-0202A "T-REEL"
M1004	8-835-501-01	s	MOTOR, DC SRV-0202A "S-REEL"
M1005	X-3165-593-3	o	MOTOR ASS'Y, CAM "LOADING"
M1006	X-3727-784-1	o	MOTOR ASS'Y (includes CM-14 board) "CASSETTE COMPARTMENT"
RM1001	1-454-531-11	s	SOLENOID "BRAKE"
S1001	1-570-953-11	s	SWITCH, PUSH (1 KEY) "CASSETTE DOWN"
S1002	1-570-953-11	s	SWITCH, PUSH (1 KEY) "MISS REC"
S1003	⚠1-554-920-11	s	SWITCH, PUSH (AC POWER) "POWER"

FRAME, HARNESS, CONNECTOR & CONTACT LIST

CN903/AC board to CN905/AC INLET
:HARNESS (AC INLET)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-535-316-11	o	TERMINAL, GROUND (M4)
CN903F	⚠1-562-211-11	o	HOUSING, VH 3P
2pcs	⚠1-562-210-11	s	CONTACT, FEMALE, AWG18-22
CN905	⚠1-580-375-11	s	INLET, AC 3P, MALE
1pc	4-605-946-10	o	COVER, AC INLET

CN904/ AC board to CN901/SWITCH REG
:HARNESS (POWER SW)

Ref. No. or Q'ty	Part No.	SP	Description
CN904F	⚠1-562-285-11	o	HOUSING, VH 4P
2pcs	⚠1-562-210-11	s	CONTACT, FEMALE, AWG18-22
CN901F	⚠1-562-211-11	o	HOUSING, VH 3P
2pcs	⚠1-562-210-11	s	CONTACT, FEMALE, AWG18-22
S1003	⚠1-554-920-11	s	SWITCH, PUSH (AC POWER)
1pc	3-168-461-01	o	COVER, PW SWHITCH

CN616/AH-28 board to CN315 and CN316/AU board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-760-11	o	HARNESS (HEAD)
CN616	1-569-197-11	o	HOUSING, 4P
4pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN315F	1-569-196-11	o	HOUSING, 3P
1pc	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN316F	1-569-196-31	o	HOUSING, 3P
1pc	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN617/AH-28 board to CN302/AU board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-760-11	o	HARNESS (HEAD)
CN617	1-569-195-11	o	HOUSING, 2P
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN302F	1-569-196-41	o	HOUSING, 3P
1pc	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN618/AH-28 board to CN107/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-760-11	o	HARNESS (HEAD)
CN618F	1-569-195-11	o	HOUSING, 2P
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN107F	1-569-196-11	o	HOUSING, 3P
1pc	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

(FRAME, HARNESS, CONNECTOR & CONTACT LIST)

CN303/AU board to CN619/FULL ERASE HEAD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-760-11	o	HARNESS (HEAD)
CN303F	1-569-196-21	o	HOUSING, 3P
1pc	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
2pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN619F	1-569-195-11	o	HOUSING, 2P
2pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN304/AU board to CN150/MT-66 (OPTION) board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-729-11	o	HARNESS (FRONT)
CN304F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN150F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN308/AU board to CN805/RP board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-760-11	o	HARNESS (HEAD)
CN308F	1-569-199-41	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN805F	1-569-199-41	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN309 and CN310/AU board to CN501 and CN502/CP board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-742-11	o	HARNESS (REAR-R)
CN309F	1-569-197-41	o	HOUSING, 4P
4pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN310F	1-569-199-21	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN501F	1-569-197-41	o	HOUSING, 4P
4pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN502F	1-569-199-21	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN311/AU board CN142/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-734-11	o	HARNESS (Hi-Fi/CONT)
CN311F	1-569-203-11	o	HOUSING, 10P
10pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN142	Not supply		

CN312/AU board to CN141/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-734-11	o	HORNESS (HI-FI/CONT)
CN312F	1-569-203-41	o	HOUSING, 10P
10pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN141	Not supply		

Ref. No. or Q'ty	Part No.	SP	Description

CN313/AU board to CN140/SS board

1pc	1-952-735-11	o	HARNESS (Hi-Fi VCC)
CN313F	1-569-201-31	o	HOUSING, 8P
8pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN140	Not supply		

CN305 and CN319/AU board to CN154/VR-125 board
:HARNESS (VR-125)

CN305F	1-569-202-11	o	HOUSING, 9P
7pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
2pcs	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
CN319F	1-569-197-21	o	HOUSING, 4P
2pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
2pcs	1-569-192-11	o	CONTACT, FEMALE, AWG22-26
CN154F	1-569-206-11	o	HOUSING, 13P
9pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
4pcs	1-569-192-11	o	CONTACT, FEMALE, AWG22-26

CN503/CP board to CN116/SS board

1pc	1-952-742-11	o	HARNESS (REAR-R)
CN503F	1-569-199-41	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN116F	1-569-199-41	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN504/CP board to CN554/RM-95 (OPTION) board
:HARNESS (OPTION)
(SVO-965P only)

CN504F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN554F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN505 and CN506/CP board to CN211 and CN212/VO board
(SVO-965P only)

1pc	1-952-741-21	o	HARNESS (REAR)
CN505F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN506F	1-569-196-41	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN211F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN212F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN505/CP board to CN211/VO board
(SVO-915P only)

1pc	1-952-742-21	o	HARNESS (REAR-R)
CN505F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN211F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

Ref. No. or Q'ty	Part No.	SP	Description

CN512/CP board to CN157/VR-125 board

1pc	1-952-741-11	o	HARNESS (REAR-R)
CN512F	1-569-196-21	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN157F	1-569-196-21	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN655/HN-198 board to CN103/SS board

1pc	1-952-731-12	o	HARNESS (MECHA)
CN655F	1-569-198-21	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN103	Not supply		

CN656/HN-198 board to BRAKE SOLENOID
:HARNESS (B-SOL)

CN656F	1-656-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN657/HN-198 to LE-131 and SE-230 boards
:HARNESS (S-TEN)

CN657F	1-569-198-41	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN658/HN-198 board to CN102/SS board

1pc	1-952-731-12	o	HARNESS (MECHA)
CN658F	1-569-201-41	o	HOUSING, 8P
8pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN102	Not supply		

CN151/KY-194A board to CN111/SS board

1pc	1-952-729-11	o	HARNESS (FRONT)
CN151F	1-569-198-31	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN111	Not supply		

CN152/KY-194A board to CN112/SS board

1pc	1-952-729-11	o	HARNESS (FRONT)
CN152F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN112	Not supply		

CN153/KY-194A board to CONTROL-S
:HARNESS (CTRL-S)

CN153F	1-569-196-21	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

(FRAME, HARNESS, CONNECTOR & CONTACT LIST)

CN620/LD-35 board to CN106/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-737-11	o	HARNESS (LD)
CN620F	1-569-195-31	o	HOUSING, 2P
2pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN106	Not supply		

CN611/PTC-73 board to CN104/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-730-11	o	HARNESS (CENTER)
CN611F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN104	Not supply		

CN802/RP board to CN202/VO board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-738-11	o	HARNESS (RP)
CN802F	1-569-204-11	o	HOUSING, 11P
11pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN202F	1-569-204-11	o	HOUSING, 11P
11pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN803/RP board to CN132/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-730-11	o	HARNESS (CENTER)
CN803F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN132	Not supply		

CN610/SE-224 board to CN101/SS board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-730-11	o	HARNESS (CENTER)
CN610F	1-569-195-41	o	HOUSING, 2P
2pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30
CN101	Not supply		

CN100/SS board to CN902/SWITCH REG
:HARNESS (REG)

Ref. No. or Q'ty	Part No.	SP	Description
CN100F	1-561-991-11	o	HOUSING, 10P
10pcs	1-560-901-21	o	CONTACT, FEMALE AWG22-28
CN902F	1-561-991-11	o	HOUSING, 10P
10pcs	1-560-901-21	o	CONTACT, FEMALE AWG22-28

CN105/SS board to CN1/CM-14 board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-732-11	o	HARNESS (CENTER 2)
CN105	Not supply		
CN1F	1-569-196-41	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

(FRAME, HARNESS, CONNECTOR & CONTACT LIST)

CN110/SS BOARD to CN552/RM-95(OPTION) board
(SVO-965P only)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-741-11	o	HARNESS (REAR)
CN110F	1-569-199-11	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN552F	1-569-199-11	o	HOUSING, 6P
6pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN113/SS board to CN155/VR-125 board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-729-11	o	HARNESS (FRONT)
CN113	Not supply		
CN155F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN114/SS board to CN551/RM-95 (OPTION) board

Ref. No. or Q'ty	Part No.	SP	Description
1pcs	1-952-742-11	o	HARNESS (REAR-R)
CN114F	1-569-203-31	o	HOUSING, 10P
10pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN551	1-569-203-31	o	HOUSING, 10P
10pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN117/SS board to CN670/TR-68A board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-732-11	o	HARNESS (CENTER 2)
CN117	Not supply		
CN670F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN121/SS board to CN604/DRUM motor

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-730-11	o	HARNESS (CENTER)
CN121F	Not supply		
CN604F	1-569-198-31	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN122/SS board to CN603/CAPSTAN motor

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-736-11	o	HARNESS (CAP)
CN122	Not supply		
CN603F	1-569-202-31	o	HOUSING, 9P
9pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

CN123/SS board to CN693/S-REEL motor

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-731-12	o	HARNESS (MECHA)
CN123	Not supply		
CN693	1-569-202-11	o	HOUSING, 9P
9pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

(FRAME, HARNESS, CONNECTOR & CONTACT LIST)

CN124/SS board to CN683/T-REEL motor

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-731-12	o	HARNESS (MECHA)
CN124	Not supply		
CN683F	1-569-202-11	o	HOUSING, 9P
9pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN130/SS board to CN201/VO board

Ref. No. or Q'ty	Part No.	SP	Description
1pcs	1-952-739-11	o	HARNESS (VIDEO)
CN130	Not supply		
CN201F	1-569-198-31	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN131/SS board to CN203/VO board

Ref. No. or Q'ty	Part No.	SP	Description
1pcs	1-952-739-11	o	HARNESS (VIDEO)
CN131	Not supply		
CN203F	1-569-201-41	o	HOUSING, 8P
8pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN160/SS board to CN1/CL-26 (OPTION) board

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-732-11	o	HARNESS (CENTER 2)
CN160	Not supply		
CN3F	1-569-196-11	o	HOUSING, 3P
3pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN204/VO board to CN553/RM-95 (OPTION) board
(SVO-965P only)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-741-11	o	HARNESS (REAR)
CN204F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN553F	1-569-198-11	o	HOUSING, 5P
5pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30

CN156/VR-125 board to CN556/RM-95(OPTION) board
(SVO-965P only)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-952-741-11	o	HARNESS (REAR)
CN156F	1-569-197-21	o	HOUSING 4P
4pcs	1-569-194-11	o	CONTACT, FEMALE, AWG24-30
CN556F	1-569-197-21	o	HOUSING 4P
4pcs	1-569-194-11	o	CONTACT, FRMALE, AWG24-30

12-4. PACKING MATERIALS AND ACCESSORIES

SVO-965P(EK)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-590-910-11	s	CORD, POWER
1pc	3-168-650-01	o	CUSHION (REAR)
1pc	3-168-651-01	o	CUSHION (FRONT)
1pc	3-183-615-01	o	INDIVIDUAL CARTON
1pc	3-704-295-01	o	BAG (STANDARD), PROTECTION
1pc	⚠3-752-799-41	s	MANUAL(LARGE), INSTRUCTION

SVO-915P(EK)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-590-910-11	s	CORD, POWER
1pc	3-168-650-01	o	CUSHION (REAR)
1pc	3-168-651-01	o	CUSHION (FRONT)
1pc	3-183-619-01	o	INDIVIDUAL CARTON
1pc	3-704-295-01	o	BAG (STANDARD), PROTECTION
1pc	⚠3-752-799-41	s	MANUAL(LARGE), INSTRUCTION

SVO-965P (UC)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	⚠1-551-812-11	s	CORD,POWER
1pc	3-168-650-01	o	CUSHION (REAR)
1pc	3-168-651-01	o	CUSHION (FRONT)
1pc	3-183-615-01	o	INDIVIDUAL CARTON
1pc	3-704-295-01	o	BAG (STANDARD), PROTECTION
1pc	⚠3-757-799-31	s	MANUAL (LARGE), INSTRUCTION
1pc	3-795-581-21	o	SEFEGUARD (SONY), INPORTANT

12-5. OPTIONAL FIXTURES

Part No.	SP	Description
2-034-697-00	o	CLEANING CLOTH
9-919-573-01	o	CLEANING FLUID
7-700-736-05	o	L-SHAPED HEXAGONAL WRENCH (1.5mm)
7-700-736-06	o	L-SHAPED HEXAGONAL WRENCH (0.89mm)
7-700-751-02	o	BOX SCREWDRIVER (5.5mm)
8-192-602-17	o	ALIGNMENT TAPE, KRV-23PS (PAL)
8-192-602-48	o	ALIGNMENT TAPE, KRV-4821PSA (PAL)
8-192-603-16	o	ALIGNMENT TAPE, KRV-31PS (PAL)
8-192-603-56	o	ALIGNMENT TAPE, KRV-35PF (PAL)
8-192-603-96	o	ALIGNMENT TAPE, KRV-39PF (PAL)
9-911-053-00	o	THICKNESS GAUGE
J-6080-840-A	o	SMALL MIRROR
J-6080-811-A	o	TAPE GUIDE ADJUSTMENT SCREWDRIVER
or		
J-6082-044-A	o	TAPE GUIDE ADJUSTMENT SCREWDRIVER
J-6380-040-A	o	RG REFERENCE PIN (1)
J-6380-050-A	o	RG REFERENCE PIN (2)
J-6380-080-A	o	REFERENCE PLATE
J-6380-090-A	o	REEL TABLE HEIGHT ADJUSTMENT TOOL
J-6380-700-A	o	MASTER BLOCK
J-6380-550-A	o	MASTER BLOCK
J-6380-710-A	o	X VALUE ADJUSTMENT TOOL
J-6090-014-A	o	MOLYKOTE GREASE EM-30LG
or		
4-918-645-01	o	MOLYKOTE GREASE EM-30L
COMMERCIALLY SOLD		TENTELOMETER, T2-H7-UMC
		HEAD DEGAUSSER